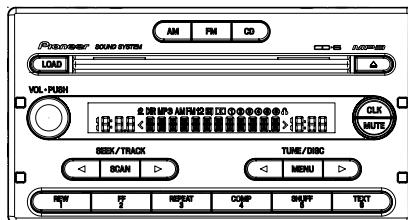


# Service Manual

**FORD**



ORDER NO.  
**CRT3091**

CD/MP3 6 DISC IN-DASH CHANGER WITH FM/AM TUNER

**DEH-MG2037ZF** XU/UC  
**DEH-MG2137ZF** XU/UC

VEHICLE	DESTINATION	PRODUCED AFTER	FORD PART No.	ID No.	PIONEER MODEL No.
Ranger	U.S.A., CANADA	August 2003	4L5T-18C815-	—	DEH-MG2037ZF/XU/UC
Ranger	U.S.A., CANADA	August 2003	4L5T-18C815-	—	DEH-MG2137ZF/XU/UC

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-951	CRT2872	G2	CD Mech. Module:Circuit Description, Mech.Description, Disassembly



For details, refer to "Important symbols for good services".

**PIONEER CORPORATION**

PIONEER ELECTRONICS (USA) INC. 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan

P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.

PIONEER EUROPE NV Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium

PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

A [ **Important symbols for good services** ]

In this manual, the symbols shown below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

B 3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

C 5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

D ● **CD section precaution** !

1. Before disassembling the unit, be sure to turn off the power. Unplugging and plugging the connectors during power-on mode may damage the ICs inside the unit.
2. To protect the pickup unit from electrostatic discharge during servicing, take an appropriate treatment (shorting-solder) by referring to "the DISASSEMBLY" on page 69.
3. After replacing the pickup unit, be sure to check the grating. (See p.63.)

**SAFETY INFORMATION**

E This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

# CONTENTS

SAFETY INFORMATION .....	2	A
1. SPECIFICATIONS .....	4	
2. EXPLODED VIEWS AND PARTS LIST .....	5	
2.1 PACKING .....	5	
2.2 EXTERIOR .....	6	
2.3 MECHANISM UNIT(G2BM)(SERVICE)(1) .....	10	
2.4 MECHANISM UNIT(G2BM)(SERVICE)(2) .....	12	
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM .....	15	
3.1 BLOCK DIAGRAM(1) .....	15	
3.2 BLOCK DIAGRAM(2) .....	16	
3.3 OVERALL CONNECTION DIAGRAM(GUIDE PAGE) .....	18	
3.4 KEYBOARD UNIT .....	24	
3.5 CD MECHANISM MODULE(GUIDE PAGE) .....	26	
3.6 TUNER RELAY UNIT .....	34	
4. PCB CONNECTION DIAGRAM .....	36	
4.1 MOTHER UNIT .....	36	
4.2 KEYBOARD UNIT .....	40	
4.3 CD MECHANISM MODULE .....	42	
4.4 TUNER RELAY UNIT .....	48	
5. ELECTRICAL PARTS LIST .....	49	C
6. ADJUSTMENT .....	60	
6.1 TEST MODE .....	60	
6.2 CD ADJUSTMENT .....	61	
6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT .....	63	
6.4 TEST MODE(CD) .....	65	
6.5 SYSTEM MICROCOMPUTER TEST PROGRAM .....	68	
7. GENERAL INFORMATION .....	69	
7.1 DIAGNOSIS .....	69	
7.1.1 DISASSEMBLY .....	69	
7.1.2 CONNECTOR FUNCTION DESCRIPTION .....	74	
7.2 PARTS .....	75	
7.2.1 IC .....	75	
7.2.2 DISPLAY .....	86	
7.3 EXPLANATION .....	87	
7.3.1 SYSTEM BLOCK DIAGRAM .....	87	
7.3.2 OPERATIONAL FLOW CHART .....	88	
7.4 NOTES ON SERVICING .....	89	
7.4.1 CLEANING .....	89	
7.4.2 FACTORY SETTINGS .....	89	
8. OPERATIONS .....	90	E



# A 1. SPECIFICATIONS

## General

Power source .....	14.4V(10.5V-16.0V allowable) DC
Grounding system .....	Negative type
Backup current .....	3mA or less
Dimensions .....	189(W) x100(H) x188(D)mm
Weight .....	2.4kg

## B CD player

System .....	Compact disc audio system
Usable discs .....	Compact disc
Signal format .....	Sampling frequency : 44.1kHz Number of quantization : 16;linear
S/N .....	75dB or more
Distortion .....	0.1% or less
MP3 decoding format .....	MPEG1 and MPEG2 audio layer 3

## C FM tuner

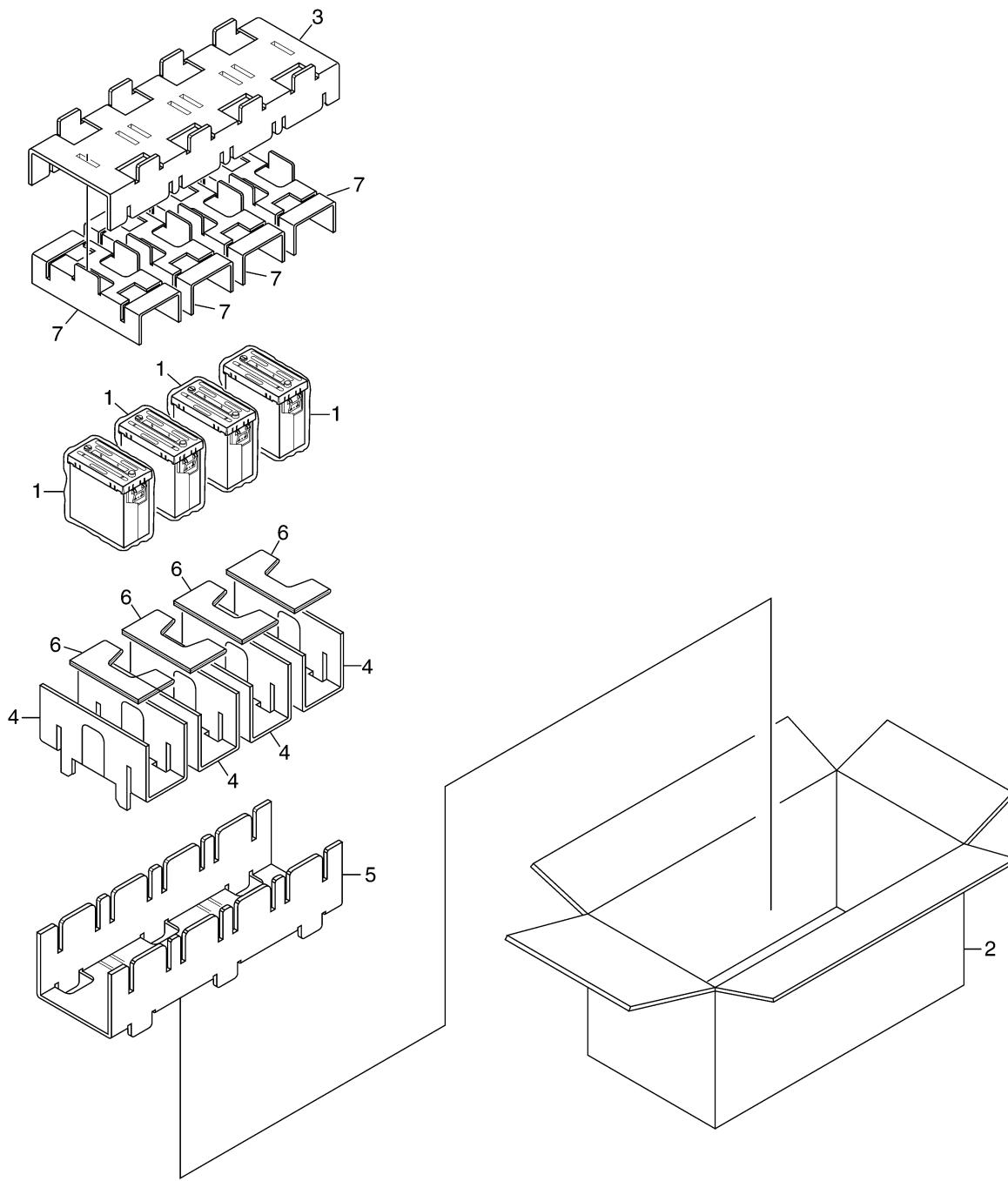
Frequency .....	87.75, 87.9-107.9 MHz
S/N 58dB or more	
Distortion .....	1.5% or less
IF interference .....	95dB or more
Image interference .....	45dB or more
Stereo Separation .....	25dB or more(400Hz)

## D AM tuner

Frequency .....	530-1710 kHz
S/N 20dB useable sensibility .....	33dB $\mu$ 6dB
S/N 50dB +10dB, -6dB	
Distortion .....	1.0% or less
IF interference .....	75dB or more
Image interference .....	60dB or more

## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING



#### NOTE:

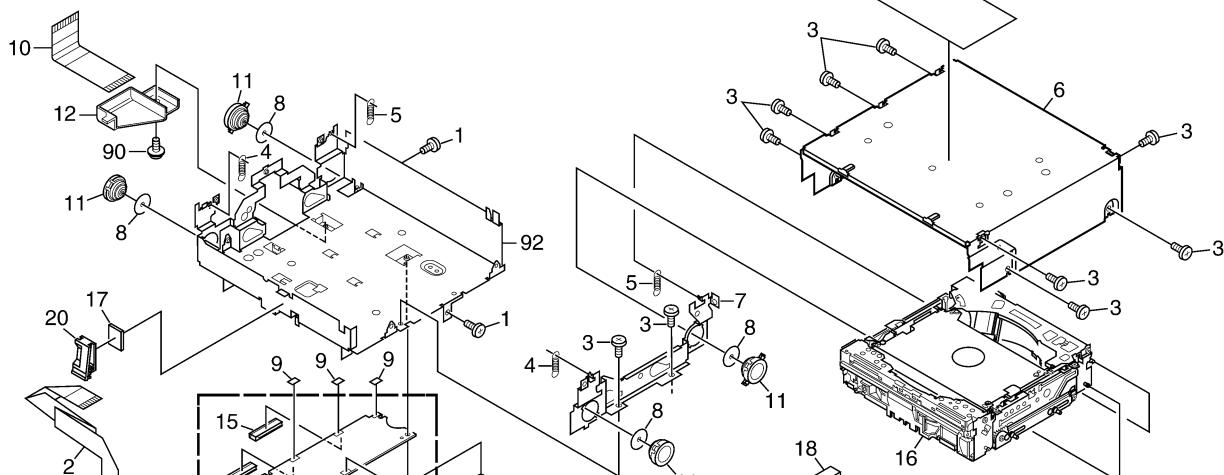
- Parts marked by “\*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to  $\nabla$  mark on the product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.  
(In the case of no amount instructions, apply as you think it appropriate.)

#### ● PACKING SECTION PARTS LIST

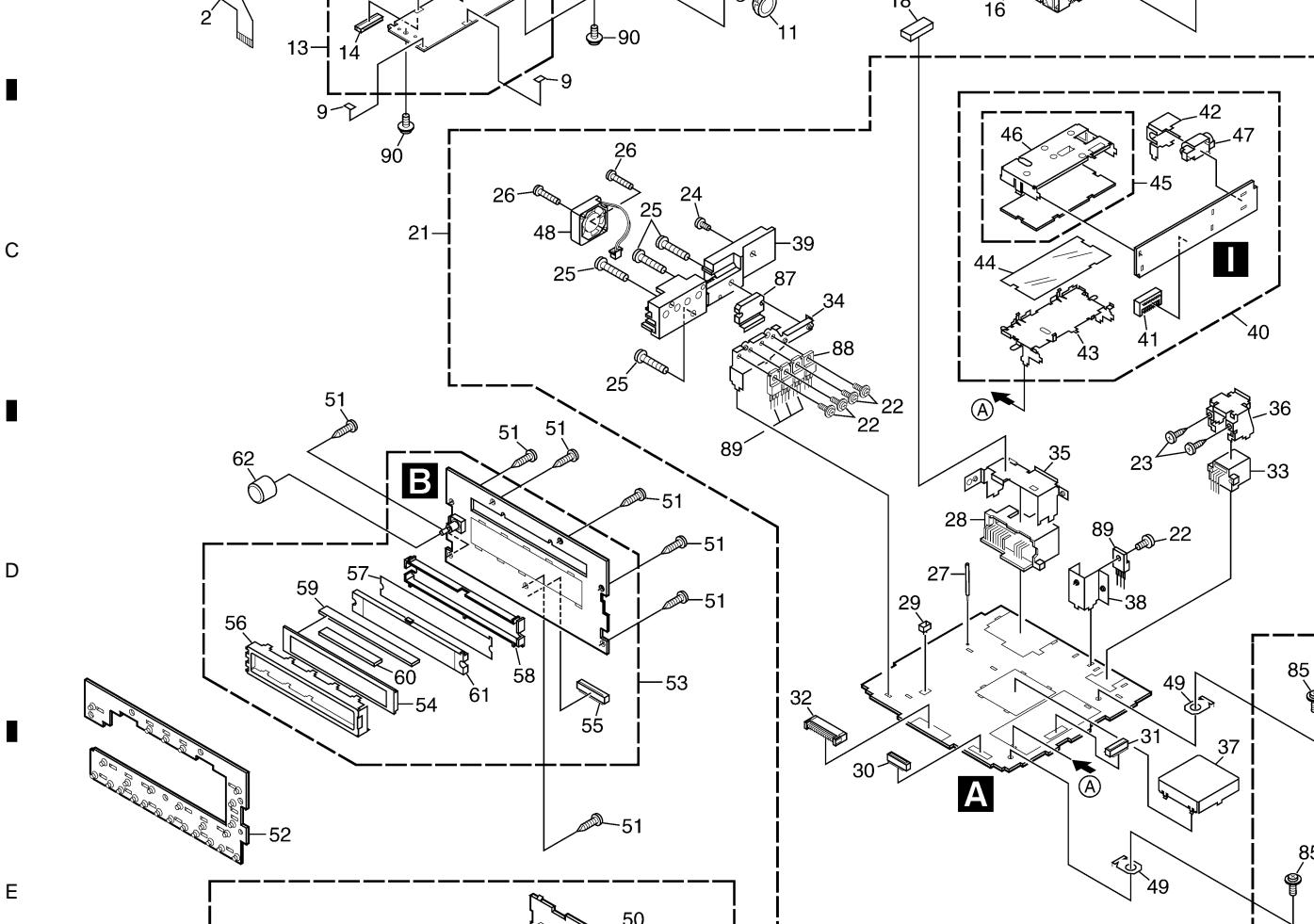
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
*	1	Polyethylene Bag	CEG1317	3	Protector	CHP2619	
	2	Contain Box (DEH-MG2037ZF/XU/UC)	CHL4766	4	Protector	CHP2620	
		Contain Box (DEH-MG2137ZF/XU/UC)	CHL4767	5	Protector	CHP2621	
				6	Protector	CHP2622	
				7	Protector	CHP2717	

## 2.2 EXTERIOR

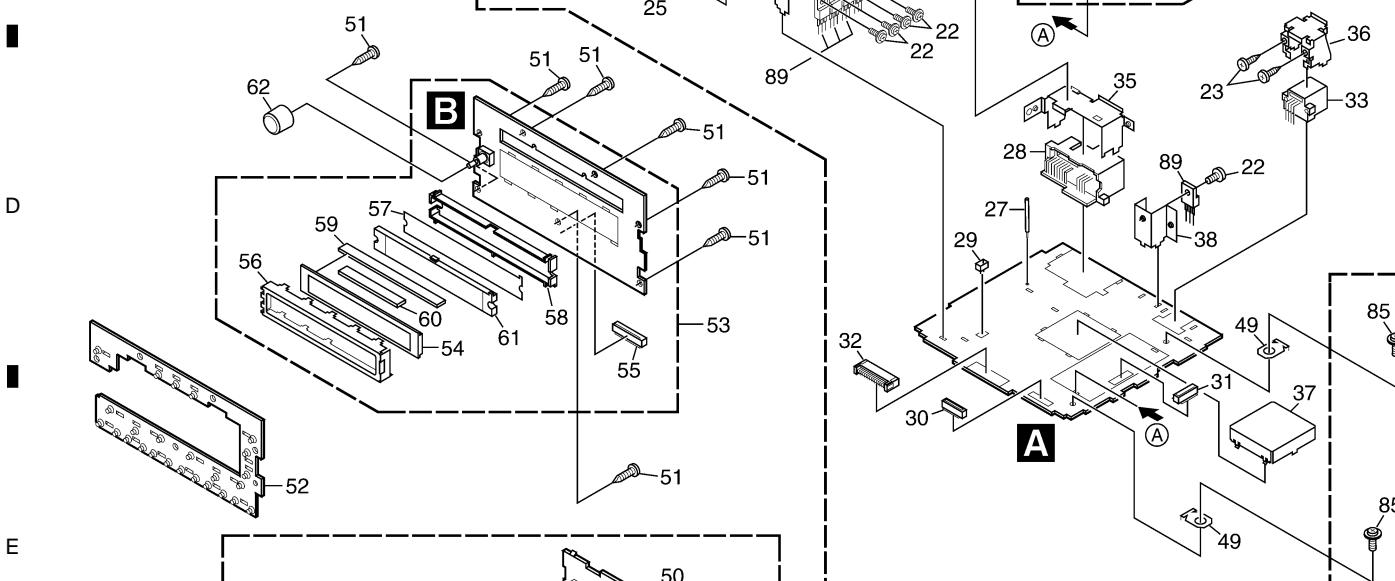
A



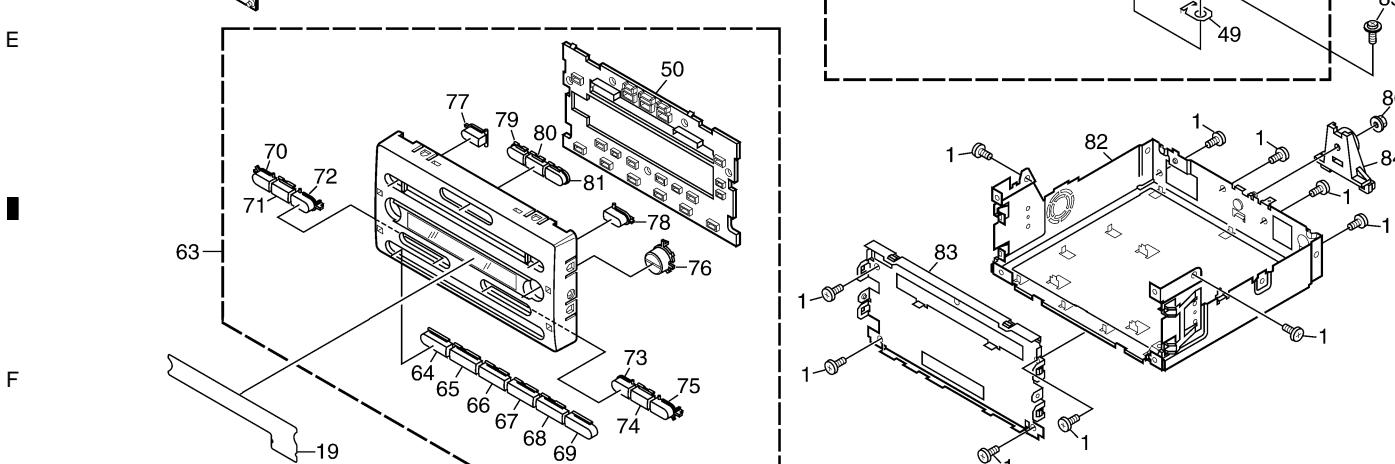
B



C



D



E



**(1) EXTERIOR SECTION PARTS LIST**

Mark	No.	Description	Part No.		Mark	No.	Description	Part No.	
1	Screw	BSZ26P060FTC		A	51	Screw	BPZ26P100FTC		
2	Connector	CDE6820			52	Rubber	CNV7078		
3	Screw	BSZ26P060FTC			53	Keyboard Unit	CVM8236		
4	Spring(Silver)	CBH2481			54	LCD(LCD904)	CAW1822		
5	Spring(Black)	CBH2482			55	Connector(CN901)	CKS4576		
6	Case	CNB2736			56	Holder	CNC9815		
7	Bracket	CNC9824			57	Sheet	CNM7787		
8	Sheet	CNM5981			58	Housing	CNV7069		
9	Sheet	CNM8258			59	Connector	CNV7599		
10	Flexible Cable	CNP7340			60	Connector	CNV7600		B
11	Damper	CNV6608			61	Lighting Conductor	CNV7936		
12	Holder	CNV7225			62	Knob Unit	CXB8558		
13	Control Unit(G2BM)	CWX2713			63	Grille Unit	See Contrast table(2)		
14	Connector(CN902)	CKS1956			64	Button(1)	CAC7524		
15	Connector(CN101)	CKS4512			65	Button(2)	CAC7530		
16	Service Mechanism Unit(G2BM)	CXX1659			66	Button(3)	CAC7531		
17	Double Side Seal	CNM7891			67	Button(4)	See Contrast table(2)		
18	Cushion	CNM8378			68	Button(5)	CAC7535		
19	Sheet	CNM8581			69	Button(6)	CAC7536		
20	Clamper	CNV7333			70	Button SEEK DOWN)	CAC7537		C
21	Mother Unit	See Contrast table(2)			71	Button(SCAN)	CAC7538		
22	Screw	ASZ26P080FTC			72	Button SEEK UP)	CAC7539		
23	Screw	See Contrast table(2)			73	Button(TUNE DOWN)	CAC7540		
24	Screw	BSZ26P060FTC			74	Button(MENU)	CAC7541		
25	Screw	BSZ26P160FTC			75	Button(TUNE UP)	CAC7542		
26	Screw(M2.6x14)	CBA1632			76	Button(CLK/MUTE)	CAC7543		
27	Clamper	CEF1035			77	Button(LOAD)	CAC7544		
28	Plug(CN701)	CKM1372			78	Button(EJECT)	CAC7545		
29	Plug(CN871)	CKS1035			79	Button(AM)	CAC7546		
30	Connector(CN704)	CKS3700			80	Button(FM)	CAC7547		D
31	Connector(CN451)	CKS4574			81	Button(CD)	CAC7548		
32	Connector(CN705)	CKS4575			82	Chassis Unit	See Contrast table(2)		
33	Connector(CN703)	See Contrast table(2)			83	Holder Unit	CXC1377		
34	Holder	CNC9818			84	Rail Guide	HNV6756		
35	Holder	CNC9819			85	Screw	ISS26P055FTC		
36	Holder	See Contrast table(2)			86	Nut	NF50FTC		
37	Shield	CNC9882			87	IC(IC101)	TDA7384		
38	Holder	CNC9906			88	Transistor(Q802)	2SD2375		
39	Heat Sink	CNR1640			89	Transistor(Q809,851,855,863)	2SB1185		
40	Tuner Relay Unit	CWM8263			90	Screw	ISS26P060FTC		
41	Connector(CN411)	CKS4573			*	91	Label	CRW1451	
42	Holder	CNC9822				92	Chassis Unit	CXB9212	
43	Holder	CNC9823							
44	Insulator	CNM7679							
45	FM/AM Tuner Unit	CWE1561							
46	Holder	CNC8855							
47	Antenna Jack(CN401)	HKX1054							
48	Fan Motor(M871)	CXM1283							
49	Terminal(CN452, 453)	VNF1084							
*	50	Housing	CNV7075						

**(2) CONTRAST TABLE**

**DEH-MG2037ZF/XU/UC and DEH-MG2137ZF/XU/UC are constructed the same except for the following:**

Mark No.	Symbol and Description	Part No.	
		DEH-MG2037ZF/XU/UC	DEH-MG2137ZF/XU/UC
21	Mother Unit	CWM8234	CWM8235
23	Screw	BPZ26P080FTC	Not used
33	Connector(CN703)	CKX1067	Not used
36	Holder	CNC9820	Not used
63	Grille Unit	CXC2429	CXC2430
67	Button(4)	CAC7534	CAC7549
82	Chassis Unit	CXB8576	CXB9211

A

B

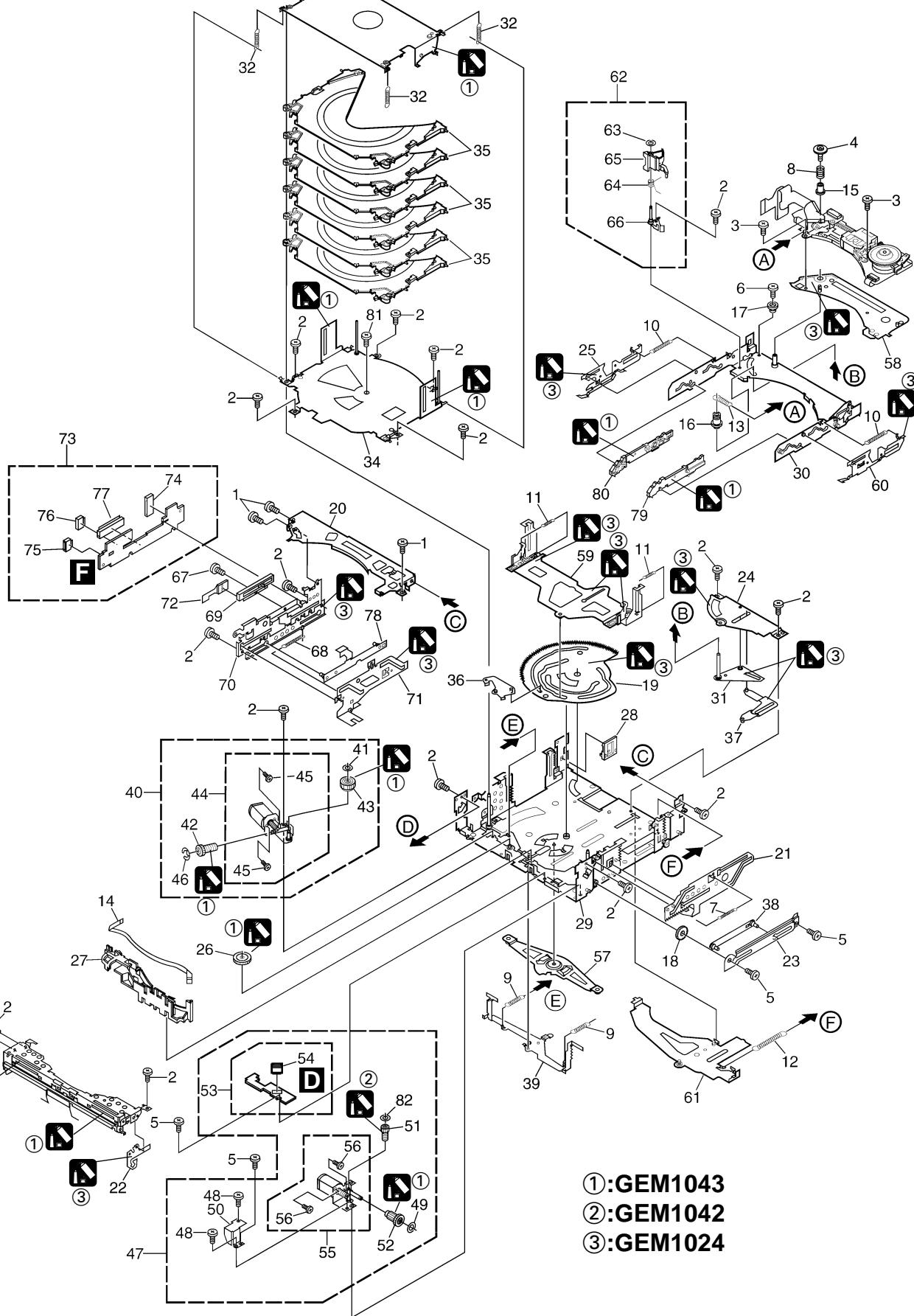
C

D

E

F

## 2.3 MECHANISM UNIT(G2BM)(SERVICE)(1)



①:GEM1043

②:GEM1042

③:GEM1024

## ● MECHANISM UNIT(G2BM)(SERVICE)(1) SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ20P020FZB	46	Washer	YE20FTC
2	Screw	BMZ20P025FTC	47	ELV Motor Assy	CXB7523
3	Screw(M2x2)	CBA1556	48	Screw	BMZ20P025FTC
4	Screw(M2x2.5)	CBA1626	49	Washer	CBF1064
5	Screw(M2x2.5)	CBA1609	50	Holder	CND1668
6	Screw(M2x4.5)	CBA1629	51	Gear	CNV6634
7	Spring	CBH2460	52	Gear	CNV6635
8	Spring	CBH2461	53	PCB Unit(LED)	CWX2614
9	Spring	CBH2484	* 54	Connector(CN31)	CKS4523
10	Spring	CBH2694	55	Motor Unit(M2)	CXC1145
11	Spring	CBH2486	56	Screw	JFZ20P020FTC
12	Spring	CBH2487	* 57	Arm Unit	CXC1653
13	Spring	CBH2500	58	Bracket Unit	CXC1654
14	Connector	CDE6698	* 59	Lever Unit	CXC1658
15	Collar	CLA4329	* 60	Lever Unit	CXC1659
16	Collar	CLA4330	* 61	Lever Unit	CXC1661
17	Collar	CLA4331	62	Arm Assy	CXB8822
18	Gear	CND1649	63	Washer	CBF1038
19	Cam Gear	CND1650	64	Spring	CBH2489
20	Frame	CND1651	65	Arm	CNV6735
21	Steer	CND1655	66	Bracket Unit	CXC1652
22	Arm	CND1657	67	Screw	BMZ20P025FTC
23	Bracket	CND1658	68	Spring	CBH2459
24	Bracket	CND1660	69	Volume(VR1)	CCW1023
* 25	Lever	CNC9953	70	Bracket	CND1652
26	Gear	CNV6612	71	Steer	CND1656
27	Holder	CNV6648	72	Flexible PCB	CNP6368
28	Holder	CNV6738	73	PCB Unit(SIDE)	CWX2613
* 29	Chassis Unit	CXC1642	* 74	Connector(CN12)	CKS3991
* 30	Frame Unit	CXC1643	* 75	Connector(CN14)	CKS4404
* 31	Arm Unit	CXC1647	76	Connector(CN13)	CKS4525
32	Spring	CBH2488	77	Connector(CN11)	CKS4572
33	Holder Unit	CXC1644	78	Lever Unit	CXC1779
34	Holder Unit	CXC1646	* 79	Lever Unit	CXB9121
35	Tray Unit	CXB6930	* 80	Lever Unit	CXB9122
* 36	Lever Unit	CXC1648	81	Screw	JFZ20P020FTC
* 37	Lever Unit	CXC1649	82	Washer	CBF1037
38	Lever Unit	CXC1650			
* 39	Lever Unit	CXC1651			
40	Cam Motor Assy	CXB7522			
41	Washer	CBF1064			
42	Gear	CNV6610			
43	Gear	CNV6611			
44	Motor Unit(-A)	CXC1144			
45	Screw	JFZ20P020FTC			

A

B

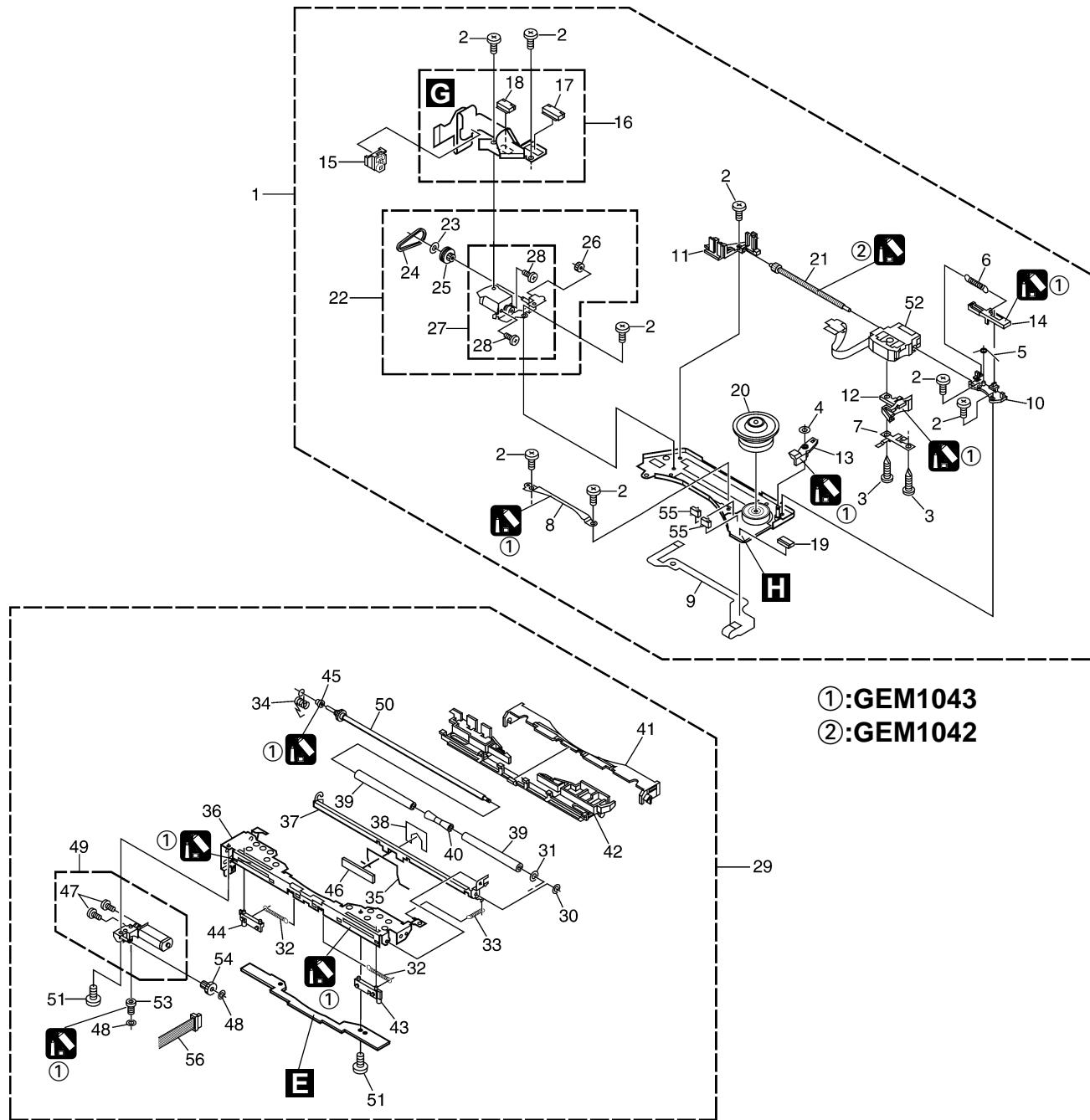
C

D

E

F

## A 2.4 MECHANISM UNIT(G2BM)(SERVICE)(2)



## ● MECHANISM UNIT(G2BM)(SERVICE)(2) SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Carriage Mech. Assy(G2BM)	CXB8844	*	46	Holder	CNV7144
	2	Screw(M2x2)	CBA1556		47	Screw	JFZ12P018FTC
	3	Screw(M2x6)	CBA1628		48	Washer	CBF1037
	4	Washer	CBF1038	*	49	Motor Unit(-A)	CXC1146
	5	Spring	CBH2453		50	Shaft Unit(-C)	CXB7528
	6	Spring	CBH2480		51	Screw	JFZ20P020FTC
	7	Spring	CBL1521		52	PU Unit(PX1MP)(Service)	CXX1600
*	8	Guide	CNC9402	*	53	Gear	CNV6620
	9	Flexible PCB	CNP6217	*	54	Gear	CNV6621
	10	Holder	CNV6624		55	Switch(S1,2)	CSN1057
	11	Holder	CNV6625	*	56	Connector	CDE6674
	12	Rack	CNV6642				
	13	Arm	CNV6731				
	14	Lever	CNV6736				
	15	Holder	CNV6737				
	16	PCB Unit	CWX2611				
	17	Connector(CN41)	CKS3785				
	18	Connector(CN42)	CKS4508				
	19	Connector(CN1)	CKS4508				
	20	Support Wheel Unit	CXC1768				
	21	Screw Unit(-B)	CXB7518				
	22	Carriage Motor Assy	CXB7521				
	23	Washer	CBF1038				
	24	Belt	CNT1088				
	25	Pulley	CNV6627				
	26	Gear	CNV6629				
	27	Motor Unit(-A)(M3)	CXC1143				
	28	Screw	JFZ14P020FTC				
	29	Loading Mech. Assy	CXB7525				
	30	Washer	CBF1037				
*	31	Washer	CBF1075				
*	32	Spring	CBH2450				
*	33	Spring	CBH2452				
*	34	Spring	CBH2457				
*	35	Spring	CBH2580				
*	36	Frame	CND1653				
*	37	Arm	CND1654				
*	38	Sheet	CNM7295				
	39	Roller	CNV6616				
	40	Collar	CNV6617				
*	41	Guide	CNV6622				
*	42	Holder	CNV6636				
*	43	Lever	CNV6732				
*	44	Lever	CNV6733				
	45	Collar	CNV6734				

A

B

C

D

E

F

1

2

3

4

A

B

C

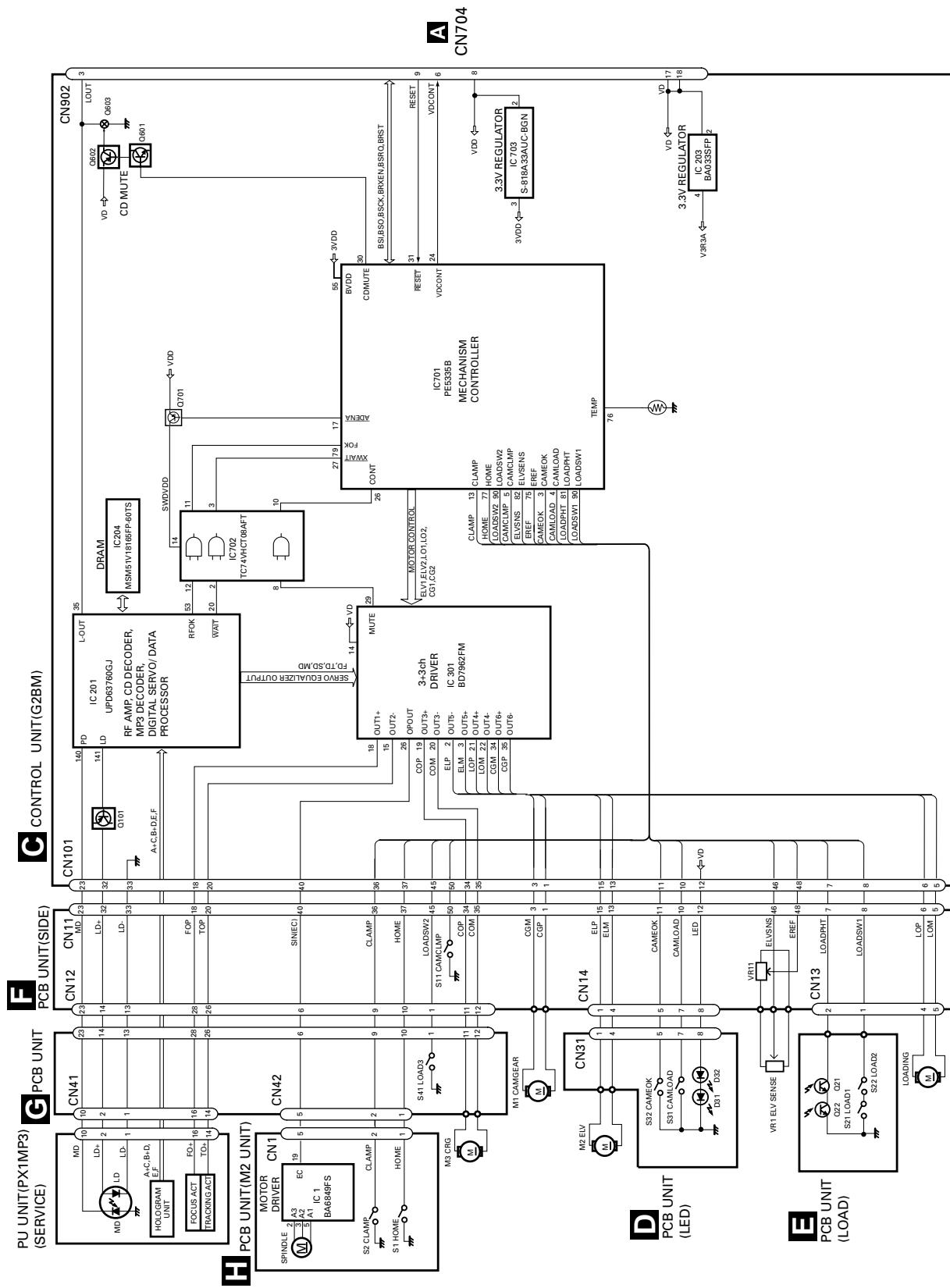
D

E

F

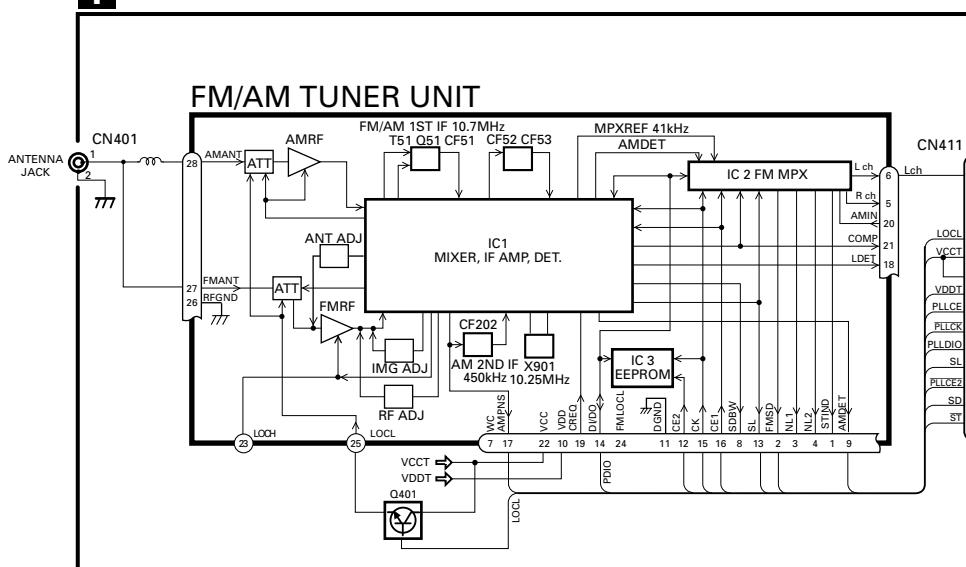
### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

### 3.1 BLOCK DIAGRAM(1)

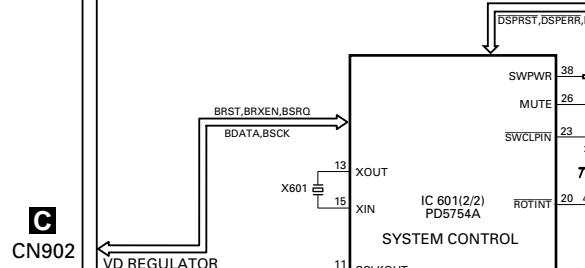
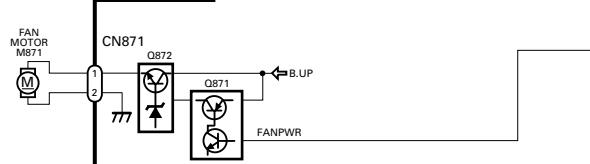
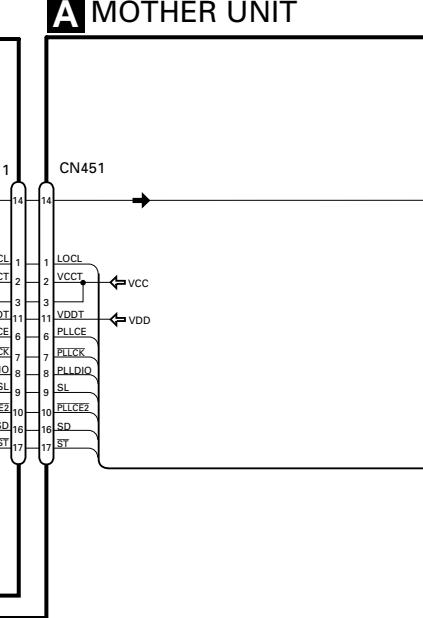


## 3.2 BLOCK DIAGRAM(2)

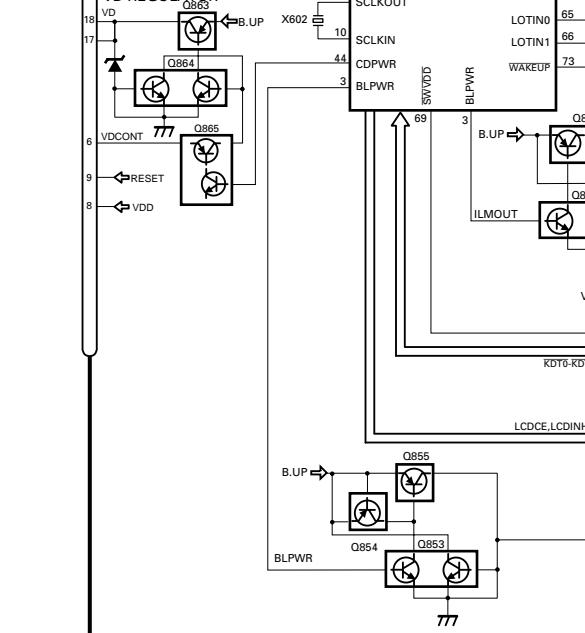
**I TUNER RELAY UNIT**

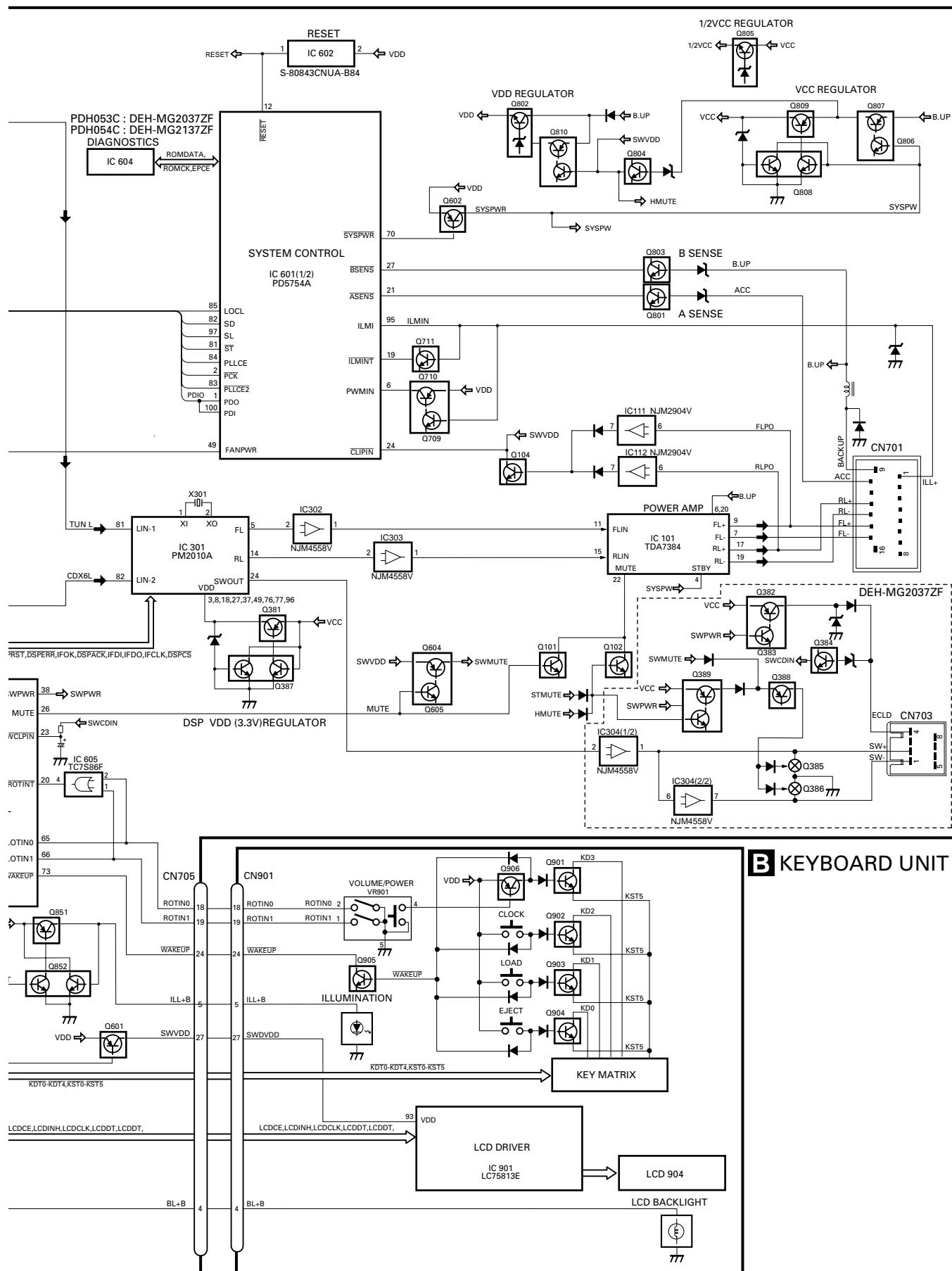


**A MOTHER UNIT**



**C**  
**CN902**

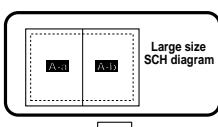




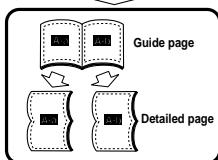
## **B** KEYBOARD UNIT

### 3.3 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

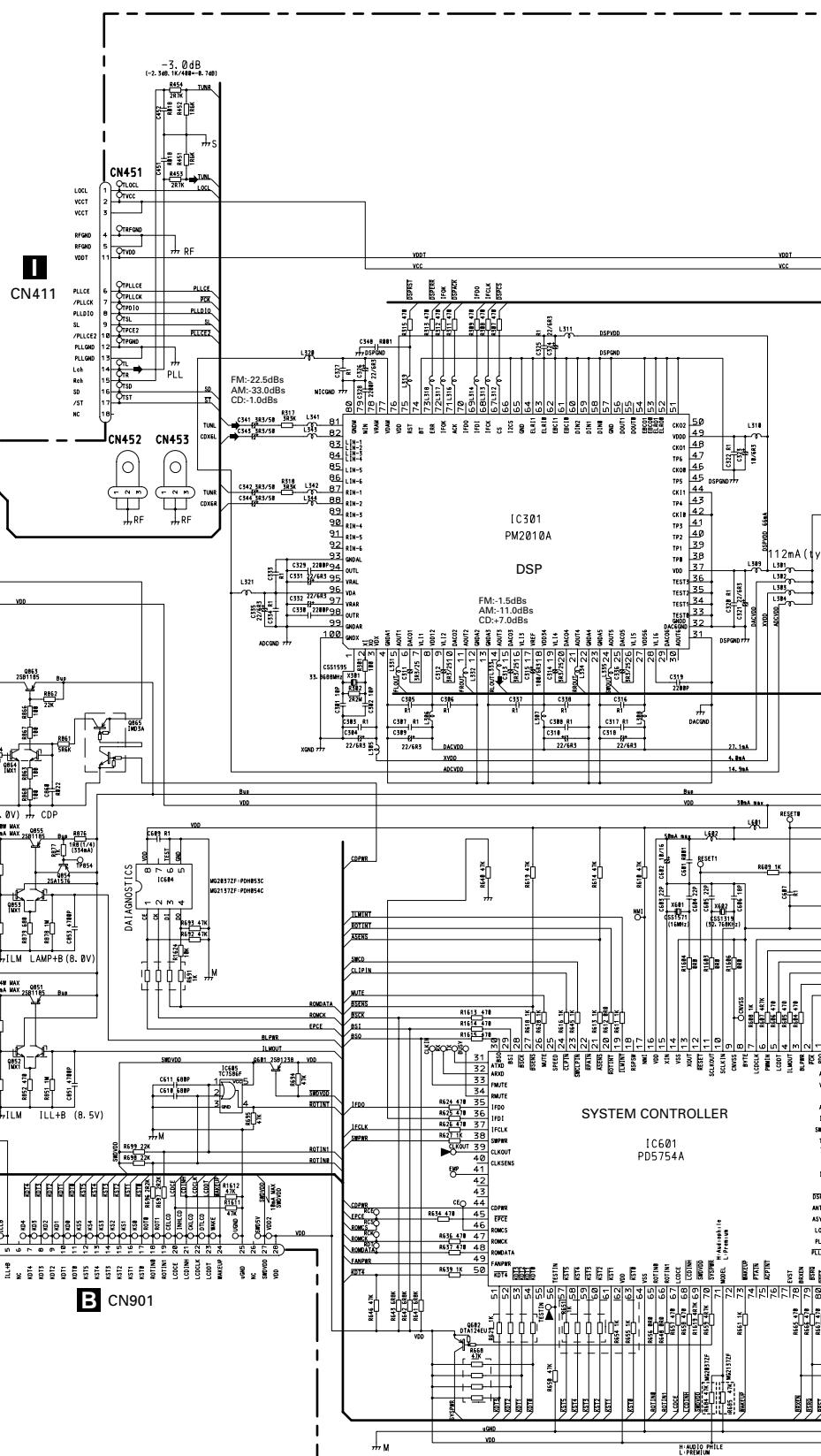
**Note: When ordering service parts, be sure to refer to " EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".**



**A-a**

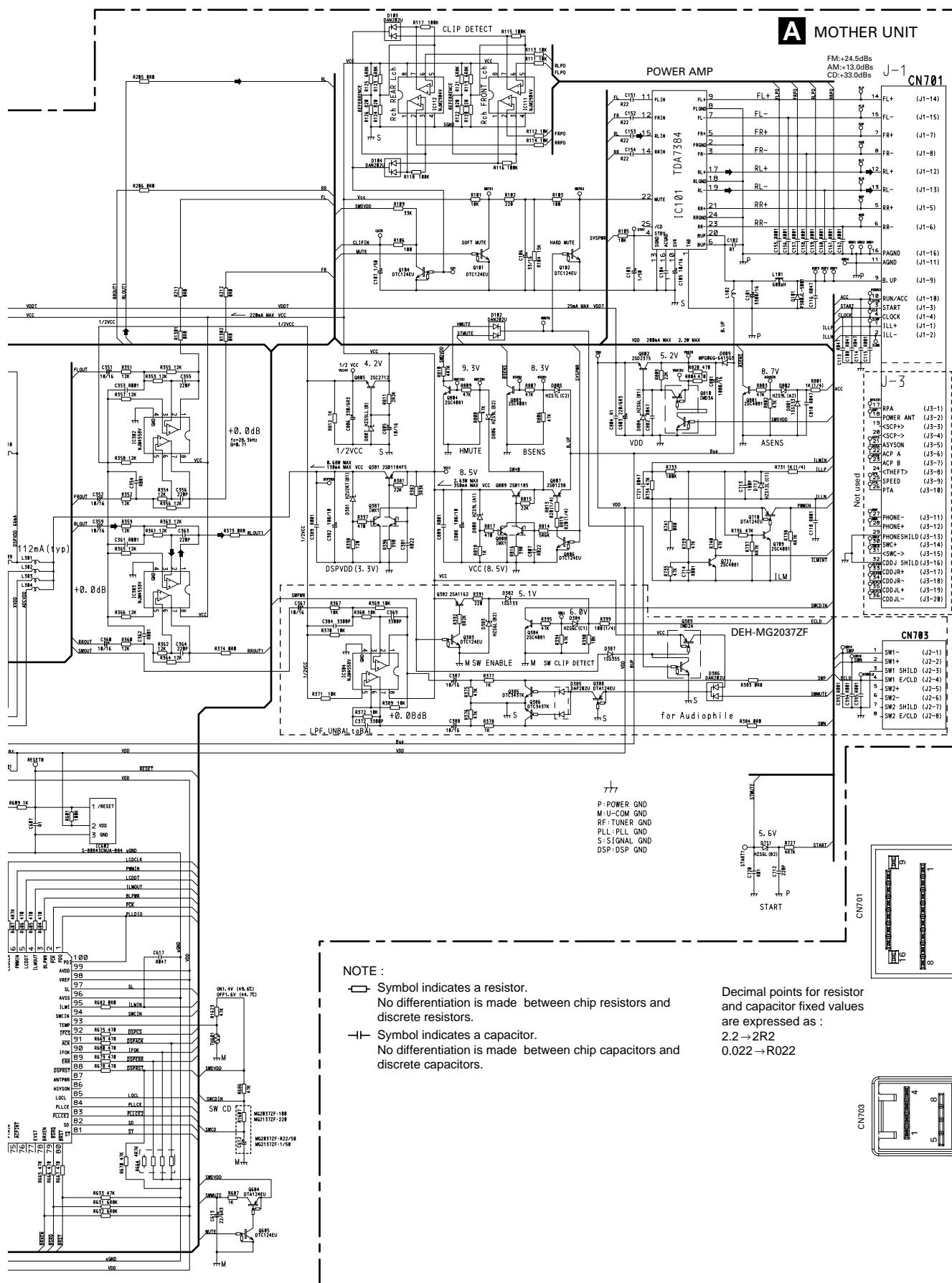


B



A

**A-b**



## NOTE ·

NOTE:  Symbol indicates a resistor

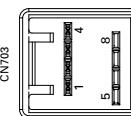
□ Symbol indicates a resistor.  
No differentiation is made between chip resistors and discrete resistors.

– discrete resistors.

Symbol indicates a capacitor.  
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as :

are expressed  
 $2.2 \rightarrow 2R2$   
 $0.022 \rightarrow R022$



A

A

B

C

D

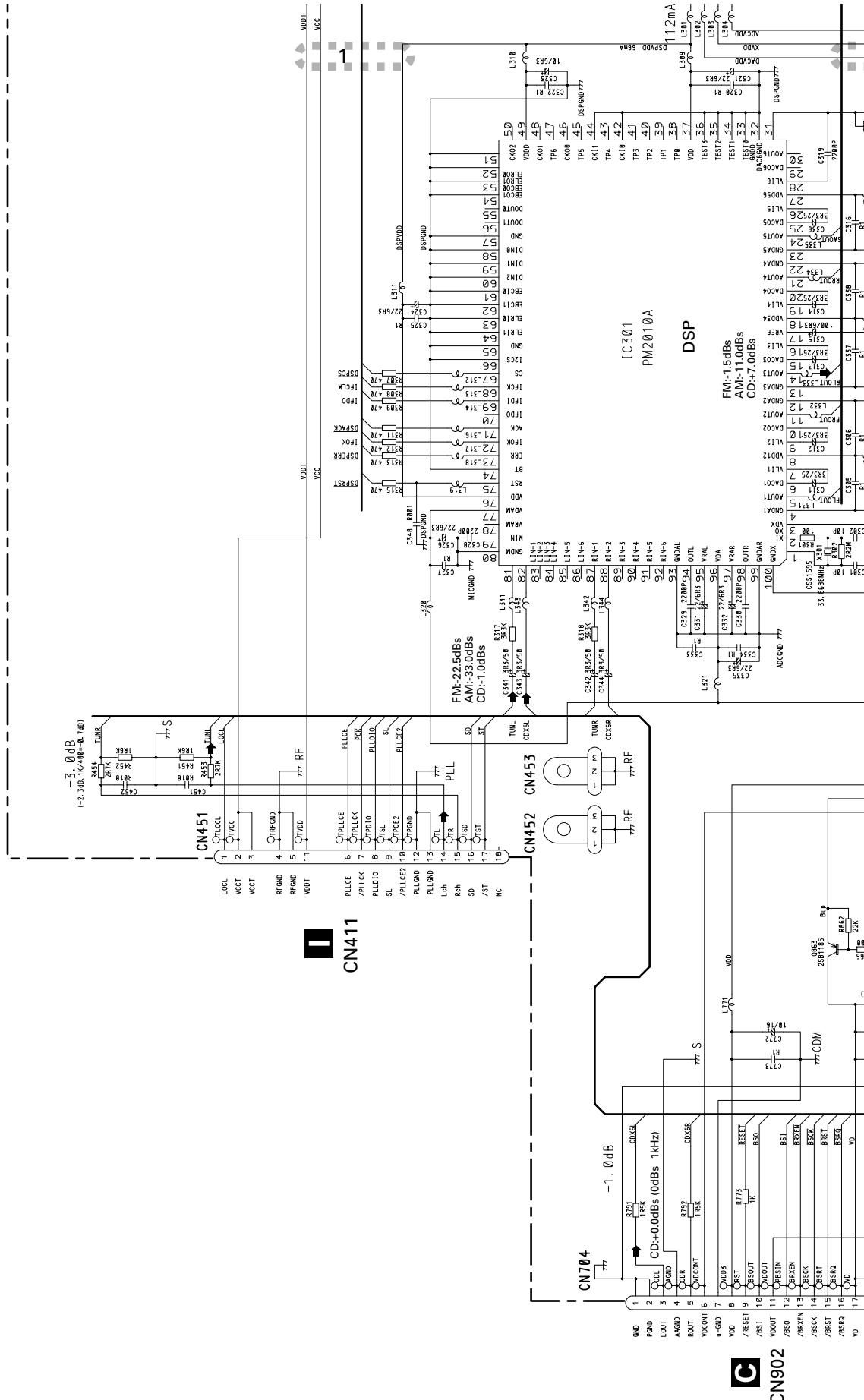
F

F

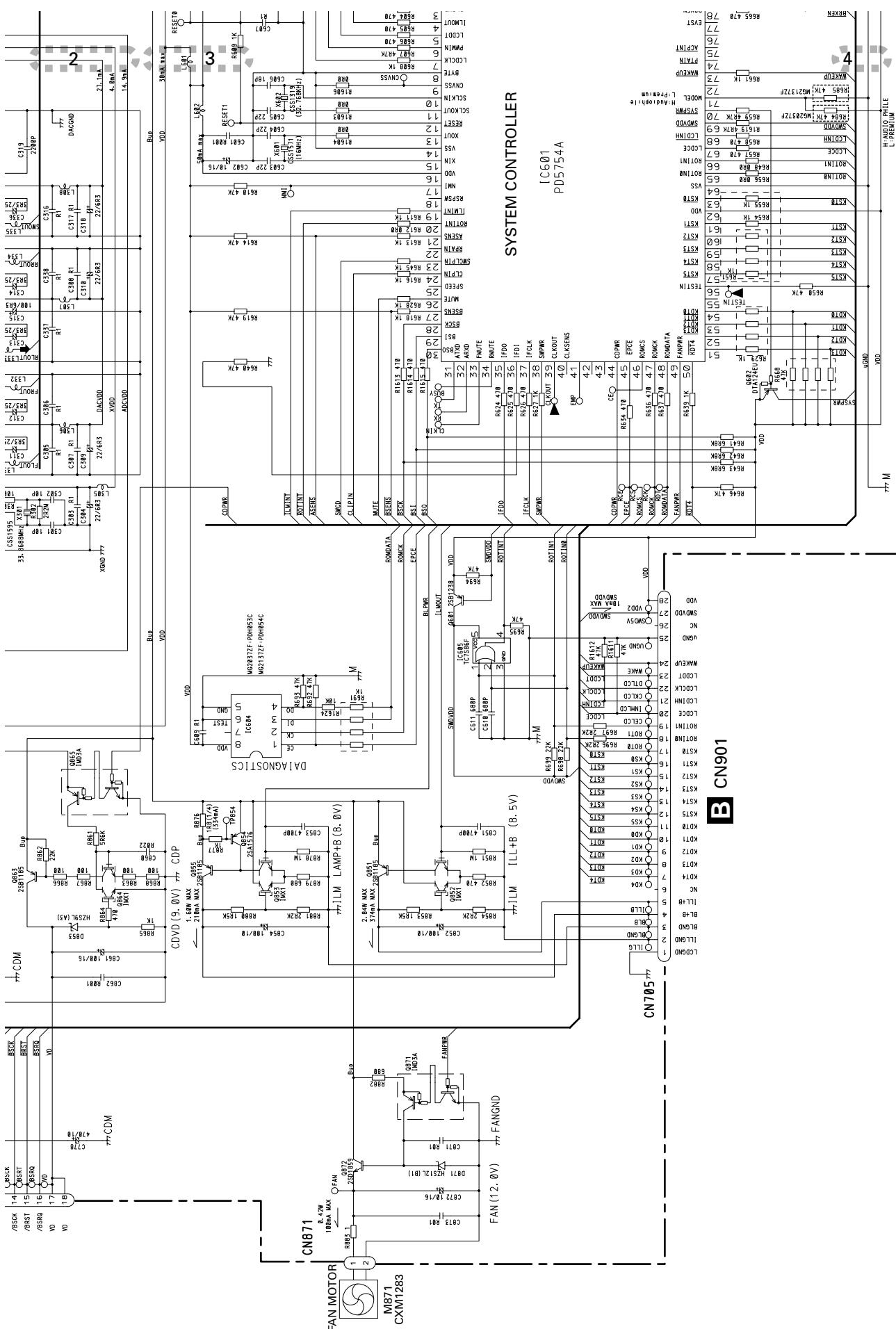
**A-b**

A-a A-b

A-a



20



**A-a**

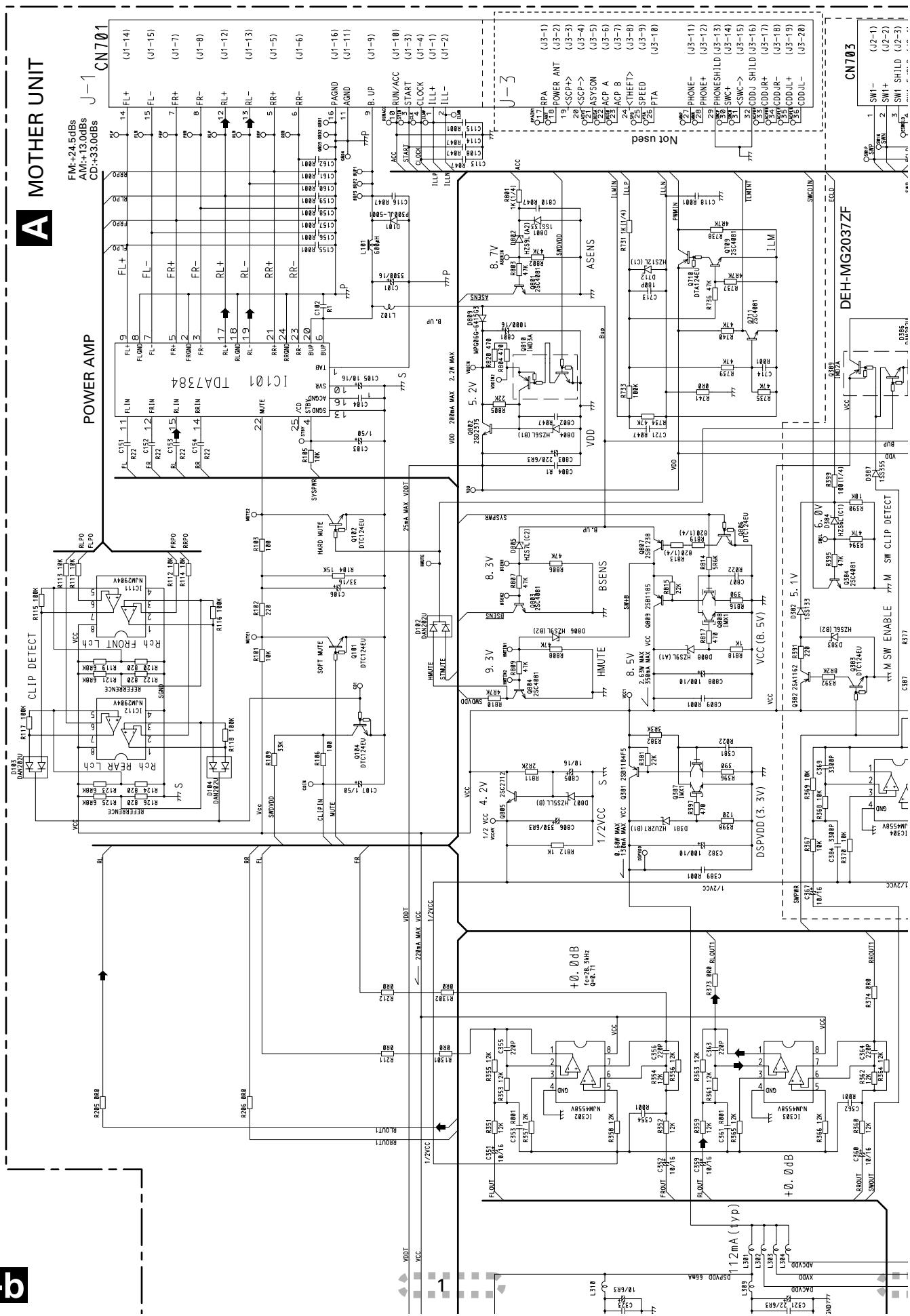
A-a A-b

21

DEH-MG2037ZF/XU/UC

## MOTHER UNIT

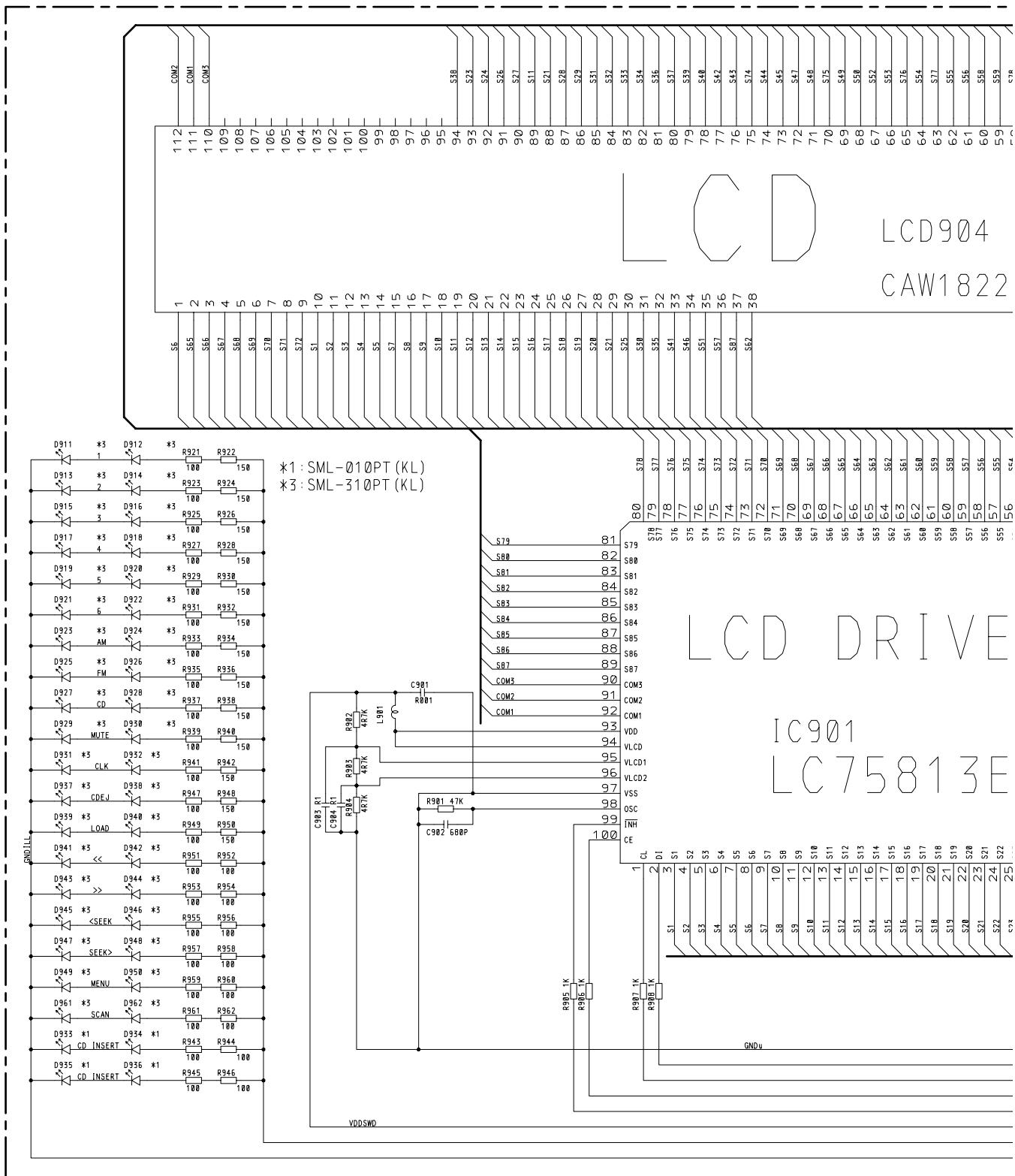
A-a A-b

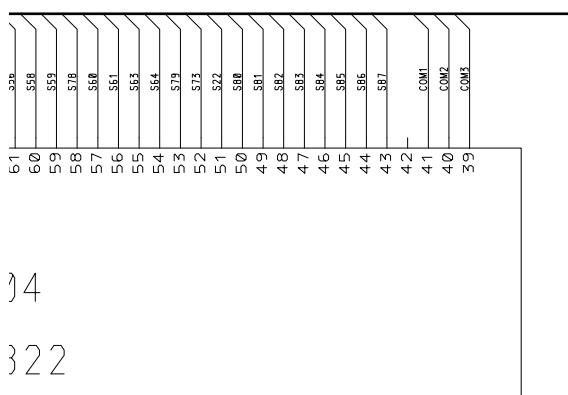


DEH-MG2037ZF/XU/UC



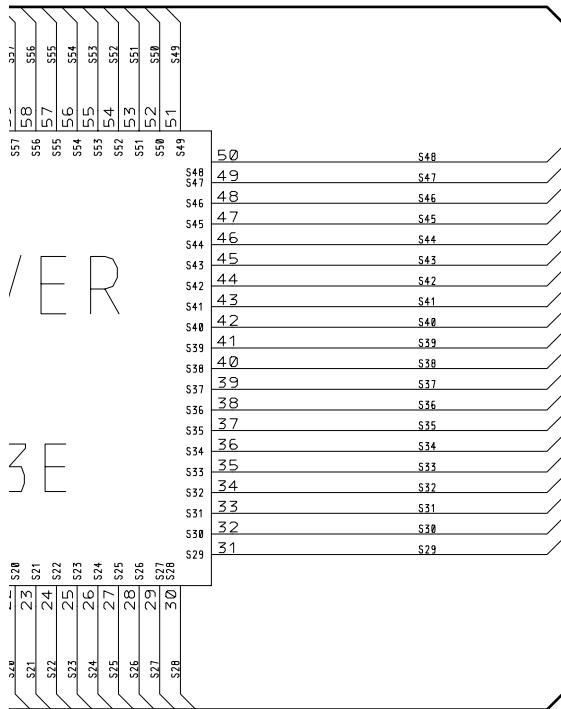
### 3.4 KEYBOARD UNIT



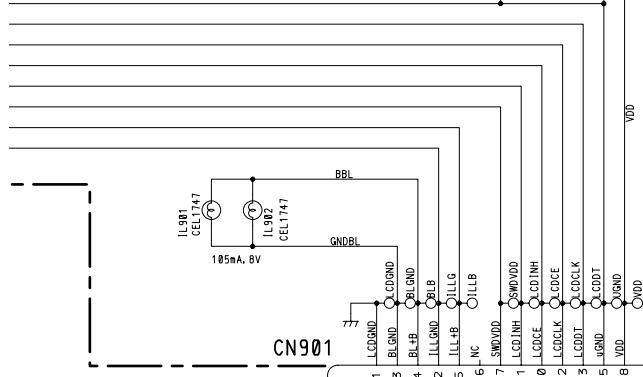


34

322

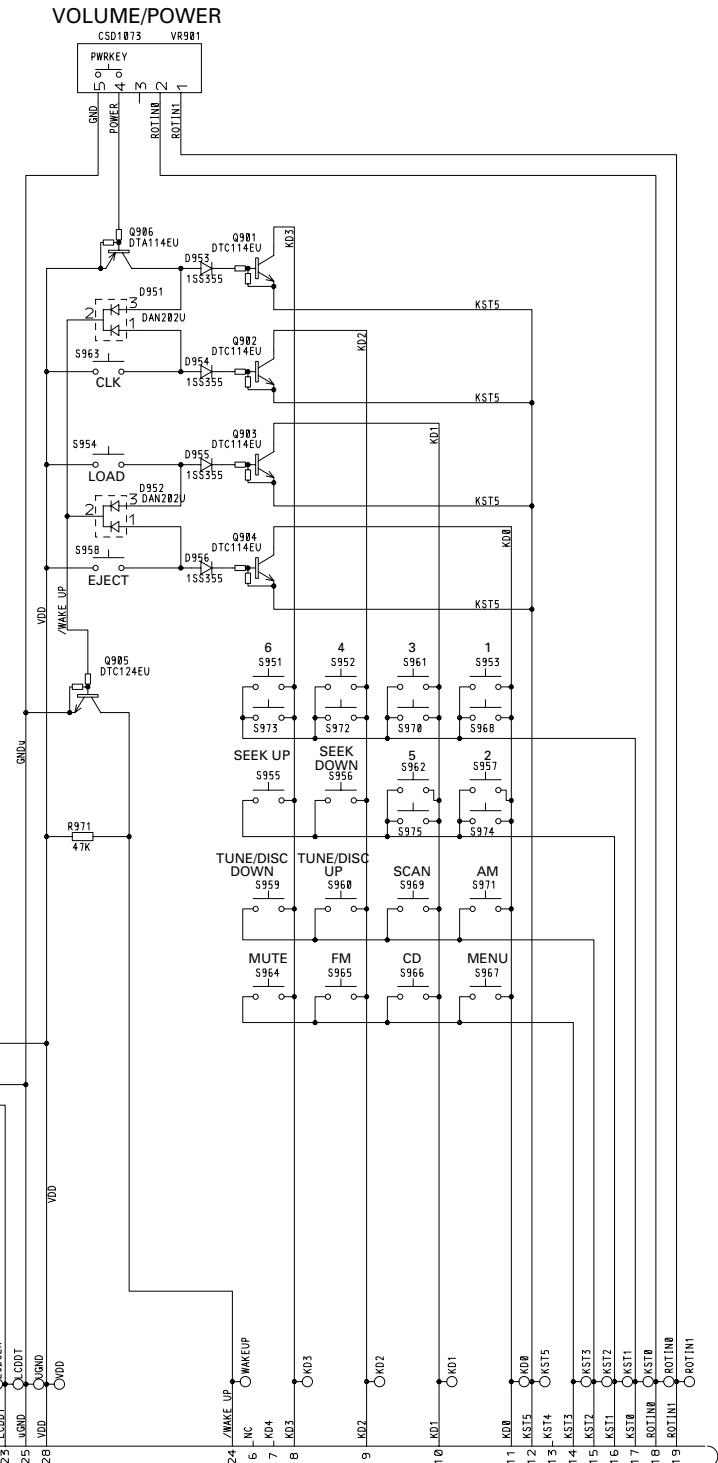


3 E



A CN705

DEH-MG2037ZF/XU/UC



/ ER

3 E

A

B

C

D

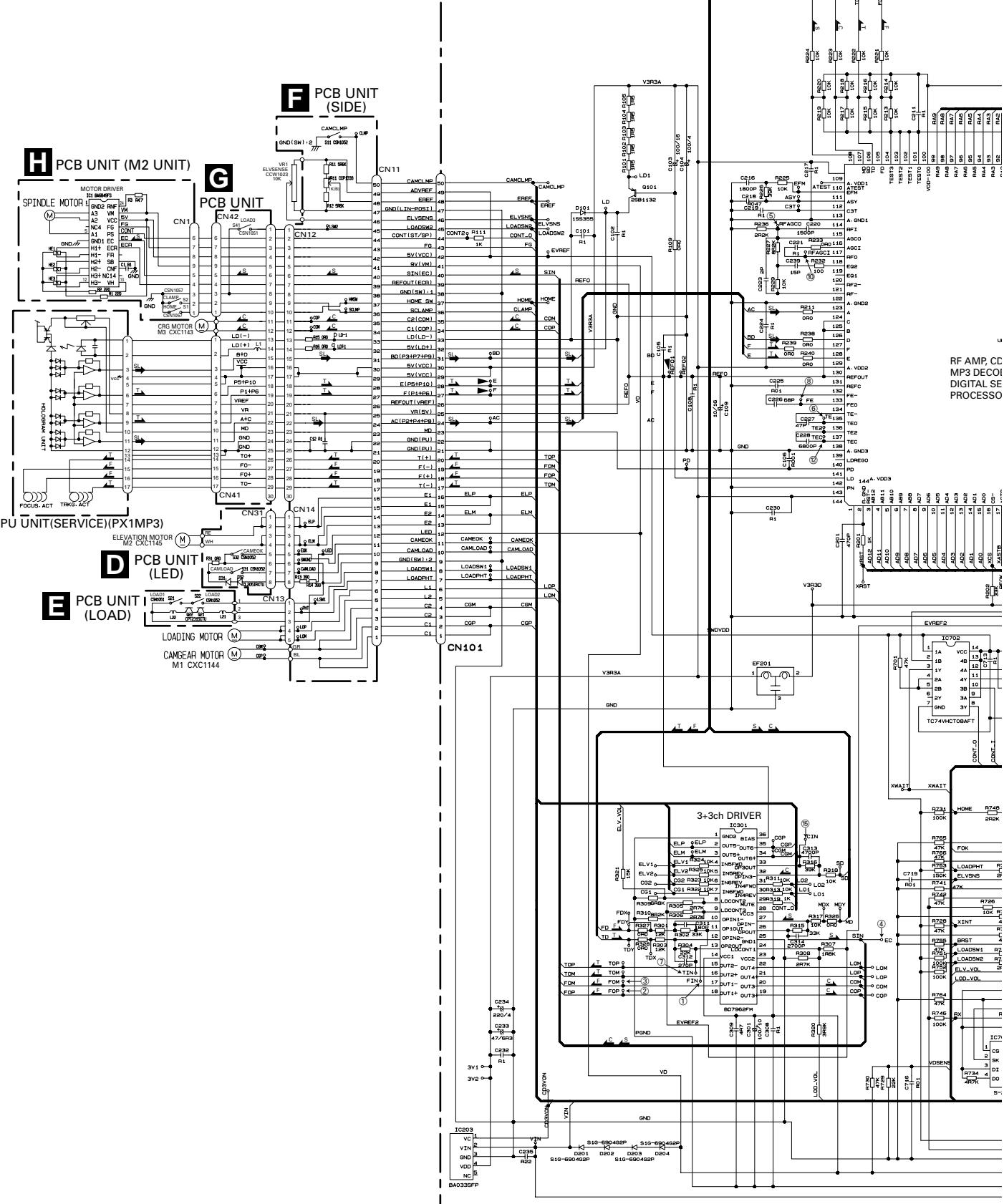
E

F

B

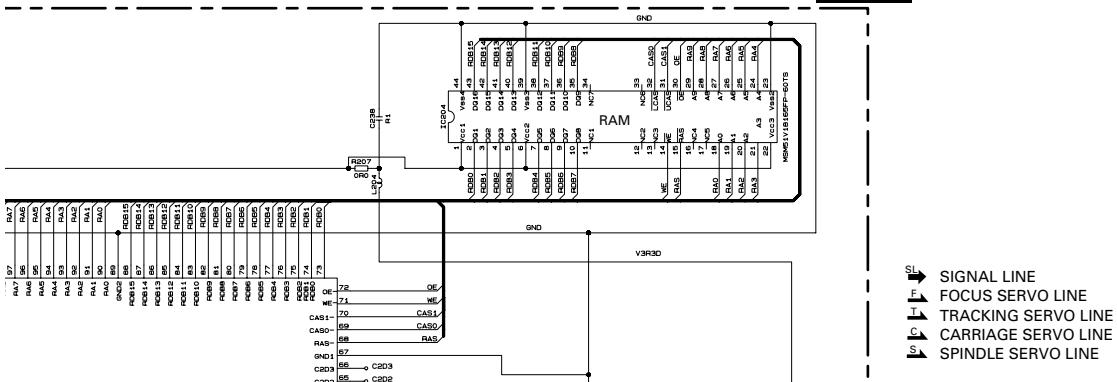
### 3.5 CD MECHANISM MODULE(GUIDE PAGE)

**C-a**



**C D E F G H**

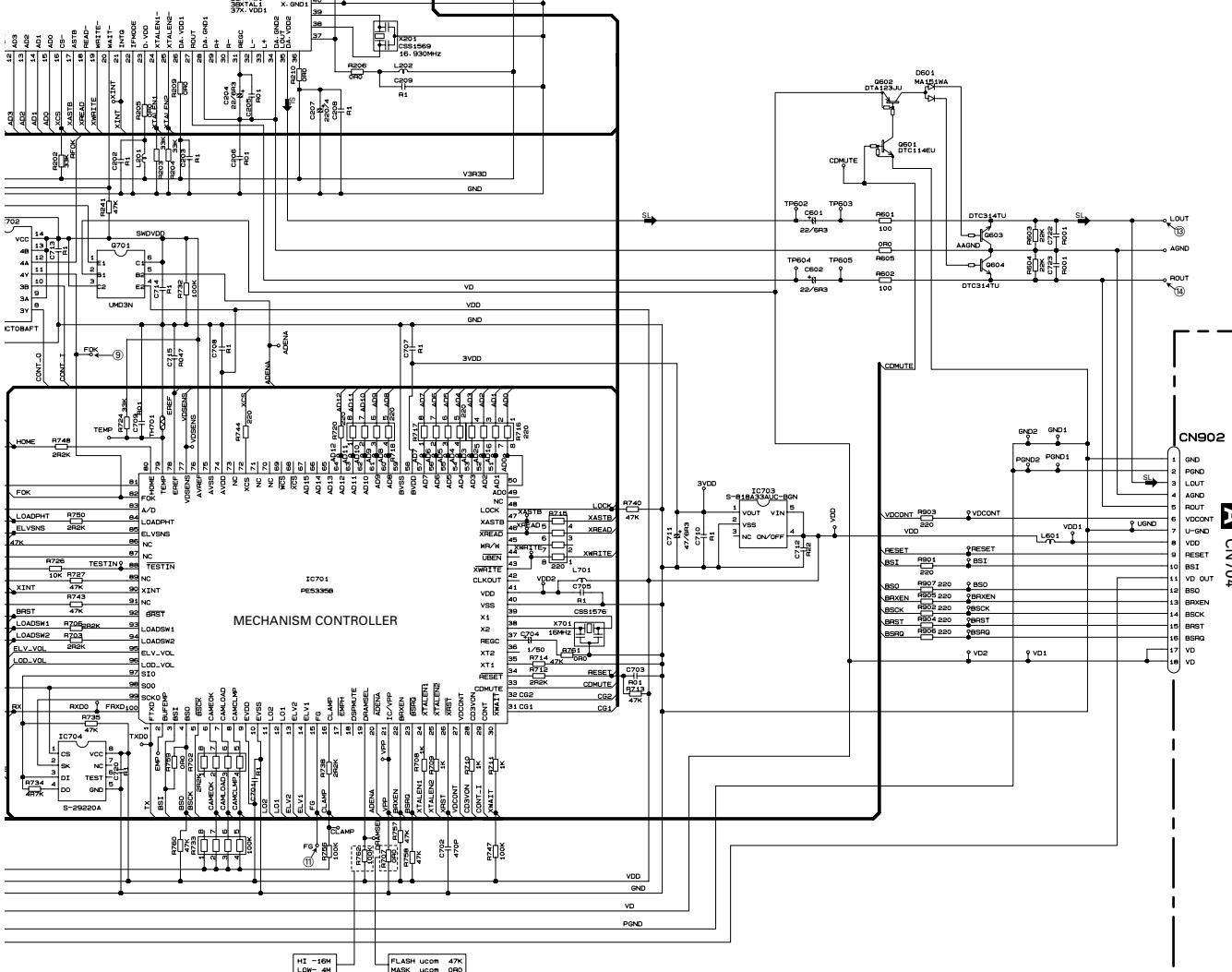
## C-b



S  
F  
T  
C  
S

SIGNAL LINE  
FOCUS SERVO LINE  
TRACKING SERVO LINE  
CARRIAGE SERVO LINE  
SPINDLE SERVO LINE

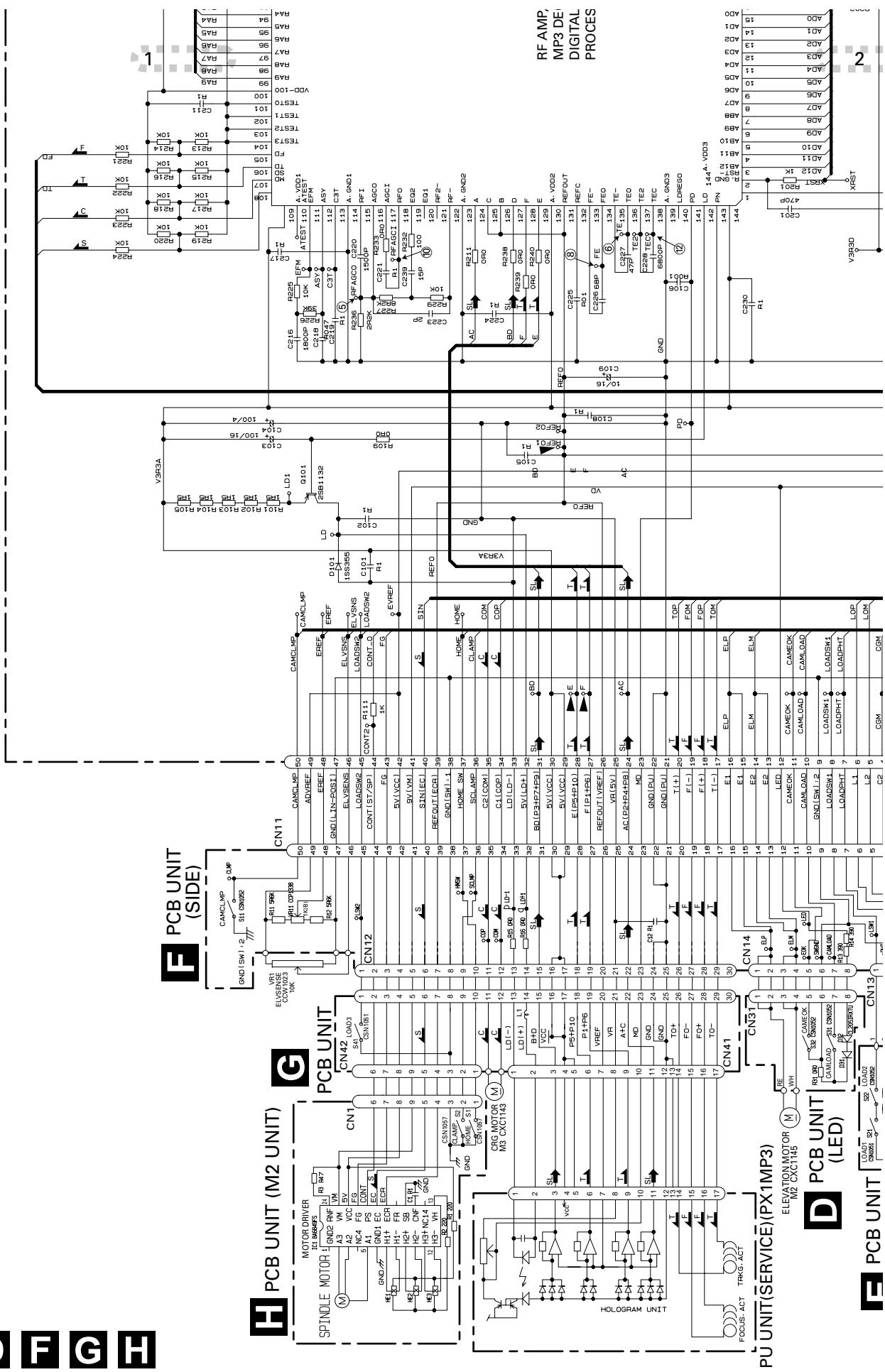
## C CONTROL UNIT(G2BM)

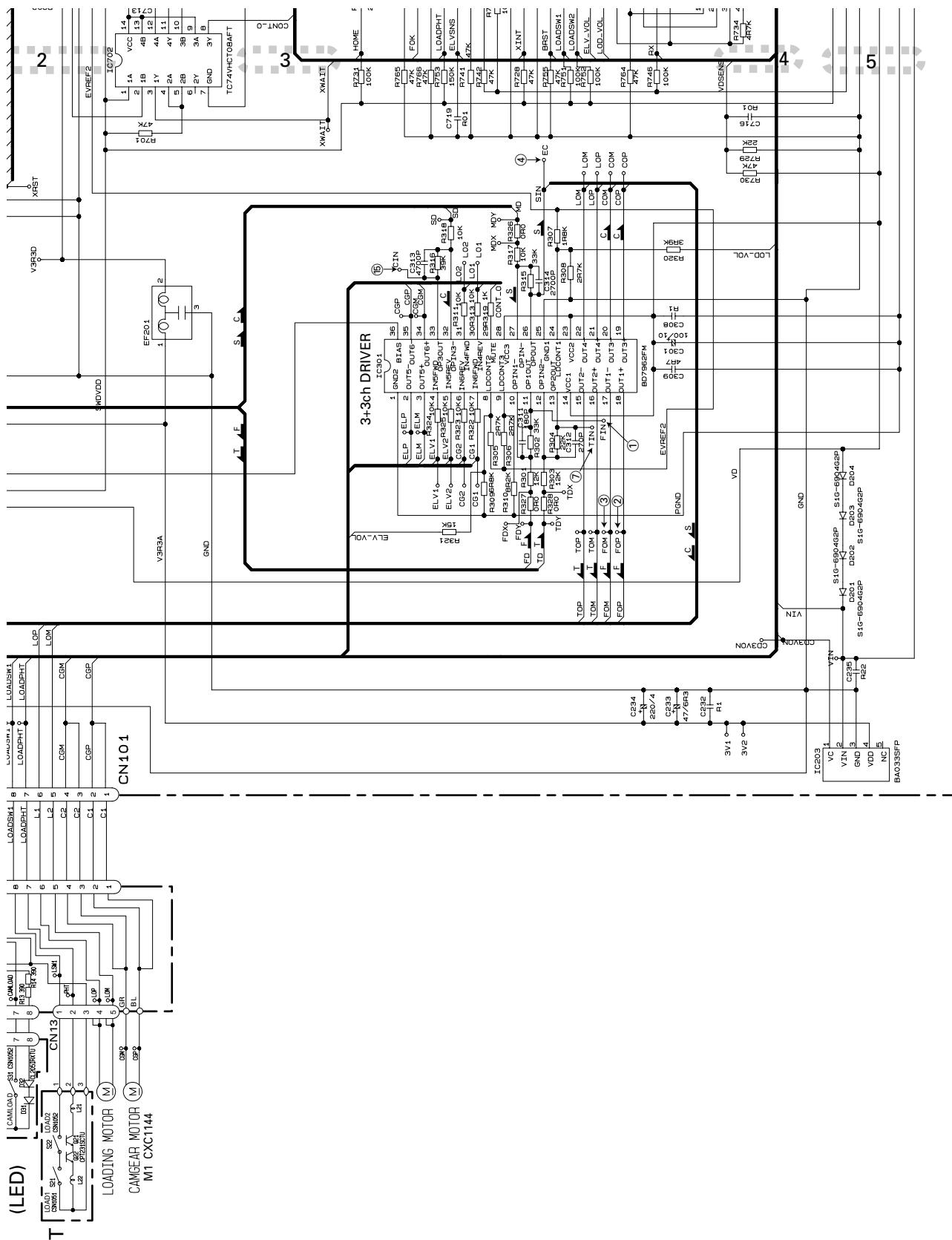


## C

C-b

C-a C-b





**C-b**

C-a C-b

**C-a E**

A

B

C

D

E

F

C-b

30

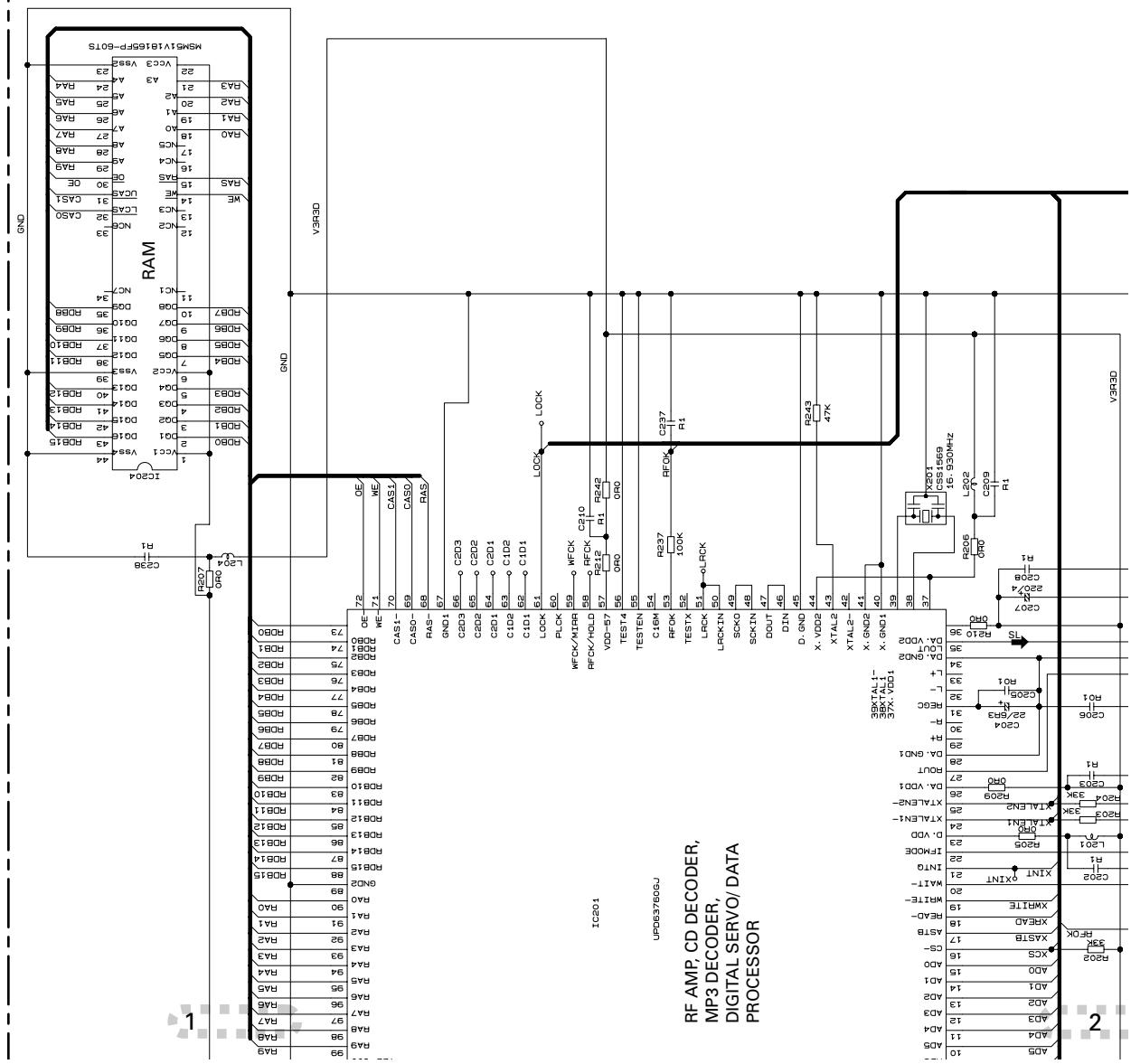
1

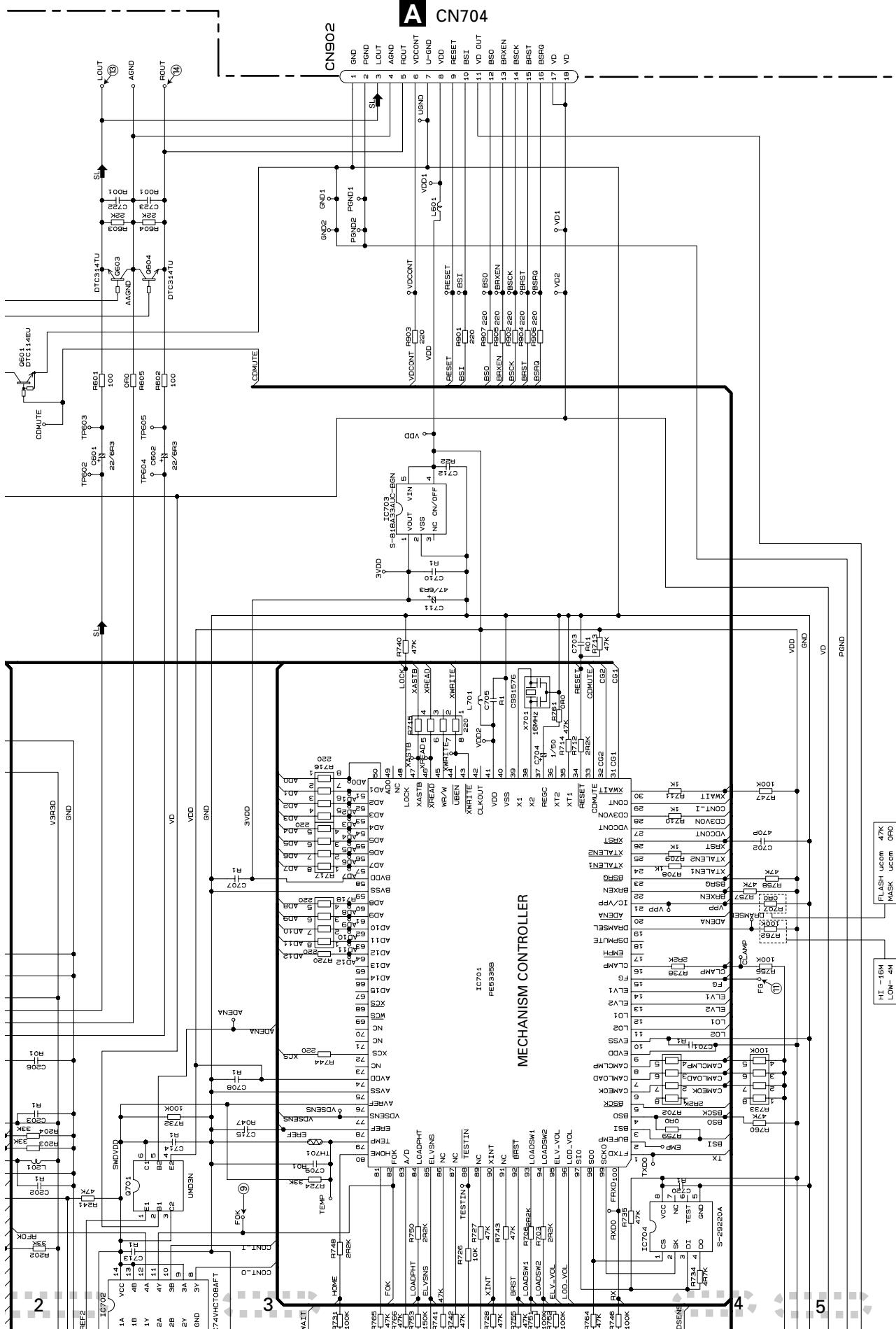
10

DEH-MG2037ZF/XU/UC

63

4





H-MG2037ZF/XU/UC

C-b

3

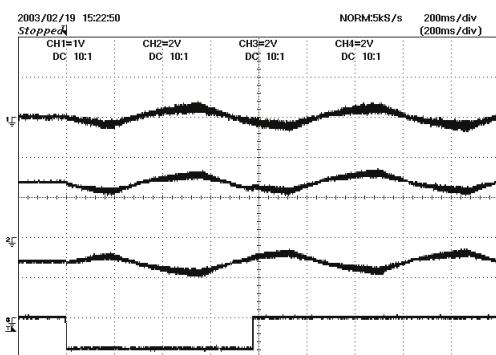
8

1

Note: The encircled numbers denote measuring points in the circuit diagram.

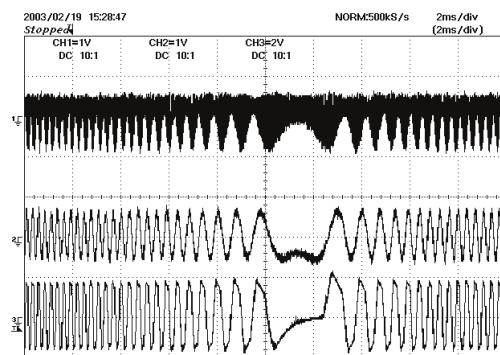
A

CH1: ① FIN Mode:Test  
 CH2: ② FOP  
 CH3: ③ FOM  
 CH4: ④ EC  
 Focus search mode



CH1: ⑤ RFAGCO Mode:Test  
 CH2: ⑥ TE  
 CH3: ⑫ TEC

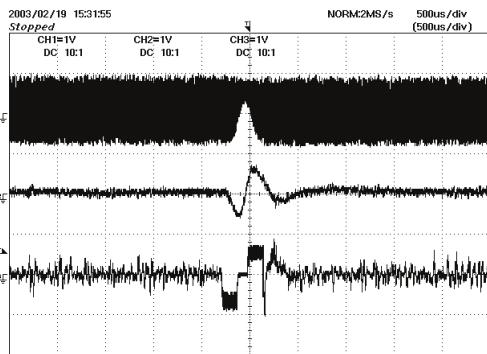
Tracking open



B

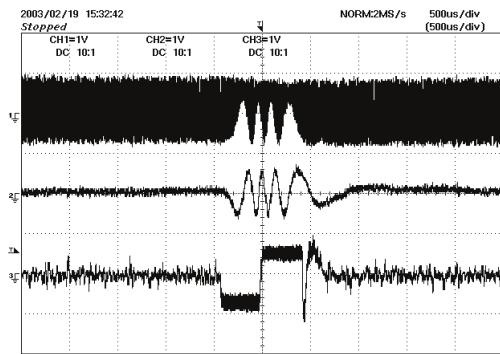
CH1: ⑤ RFAGCO Mode:Test  
 CH2: ⑥ TE  
 CH3: ⑦ TIN

1 Track Jump



CH1: ⑤ RFO Mode:Test  
 CH2: ⑥ TE  
 CH3: ⑦ TIN

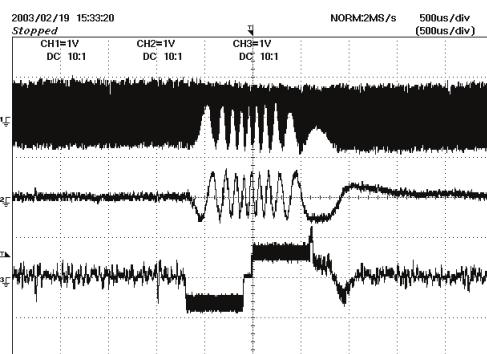
4 Track Jump



C

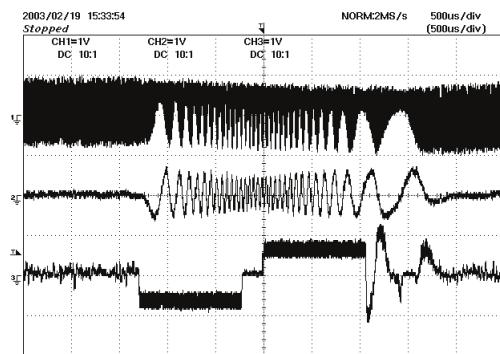
CH1: ⑤ RFAGCO Mode:Test  
 CH2: ⑥ TE  
 CH3: ⑦ TIN

10 Track Jump



CH1: ⑤ RFAGCO Mode:Test  
 CH2: ⑥ TE  
 CH3: ⑦ TIN

32 Track Jump



D

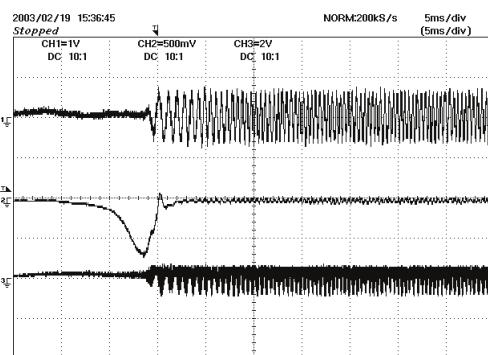
E

F

Note: The encircled numbers denote measuring points in the circuit diagram.

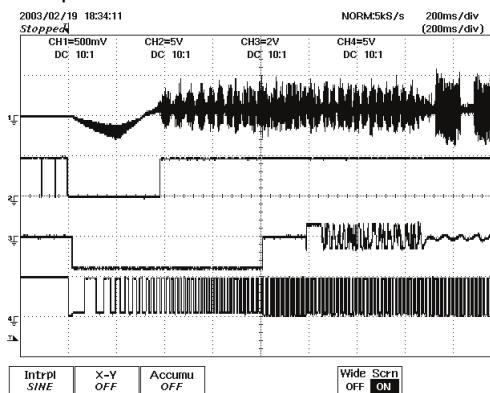
CH1 : ⑥ TE Mode:Normal  
 CH2 : ⑧ FE  
 CH3 : ⑩ RFAGCI

Focus close

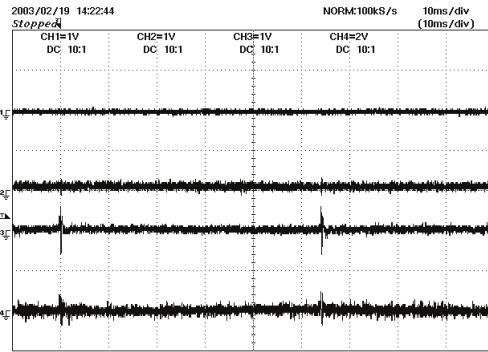


CH1 : ① FIN Mode:Normal  
 CH2 : ⑨ FOK  
 CH3 : ④ EC  
 CH4 : ⑪ FG

Setup

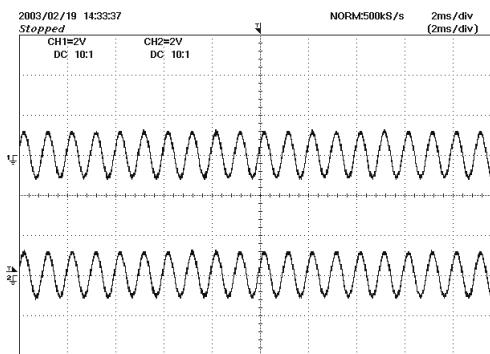


CH1 : ⑧ FE Mode:Normal  
 CH2 : ① FIN  
 CH3 : ⑥ TE  
 CH4 : ⑦ TIN  
 During "PLAY"

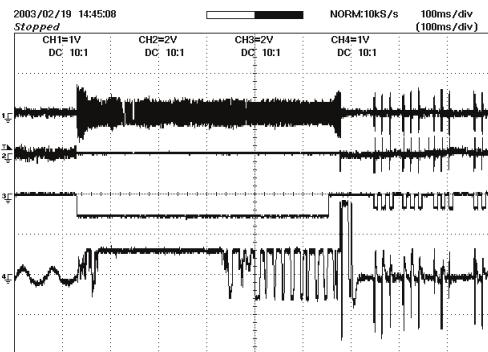


CH1 : ⑬ L OUT Mode:Normal  
 CH2 : ⑭ R OUT

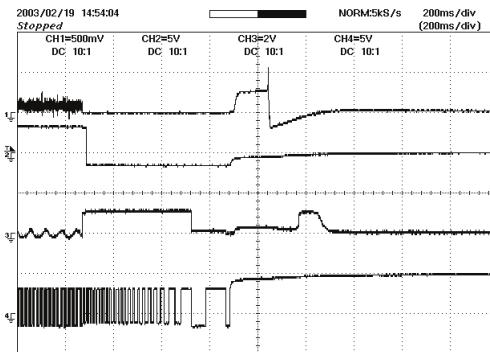
Audio output(1kHz, 0dB)



CH1 : ⑥ TE Mode:Normal  
 CH2 : ⑦ TIN  
 CH3 : ⑯ CIN  
 CH4 : ④ EC  
 During inside/outside search

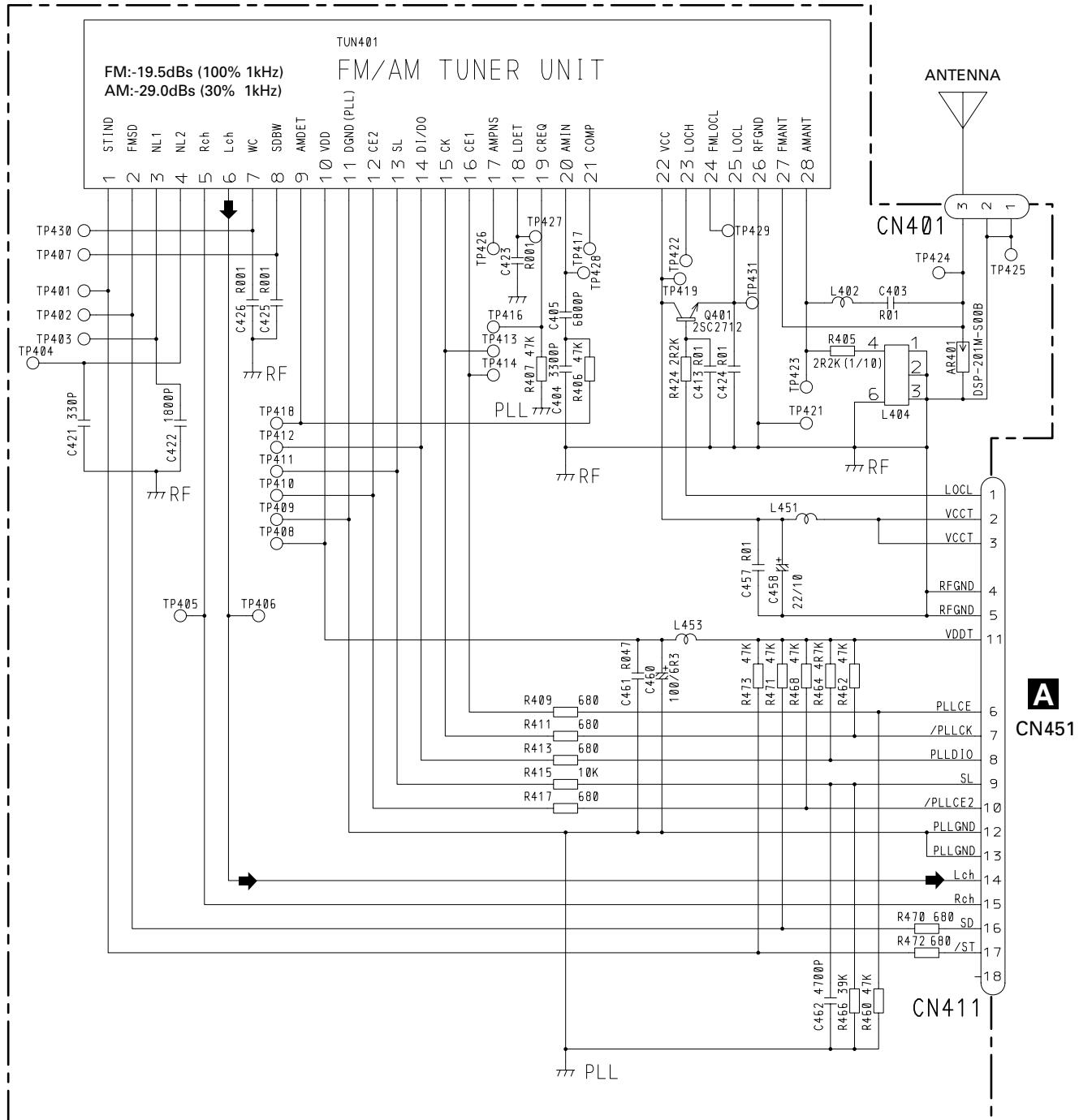


CH1 : ① FIN Mode:Normal  
 CH2 : ⑨ FOK  
 CH3 : ④ EC  
 CH4 : ⑪ FG  
 DISC stop



### 3.6 TUNER RELAY UNIT

#### I TUNER RELAY UNIT



**A**  
CN451

A

B

C

D

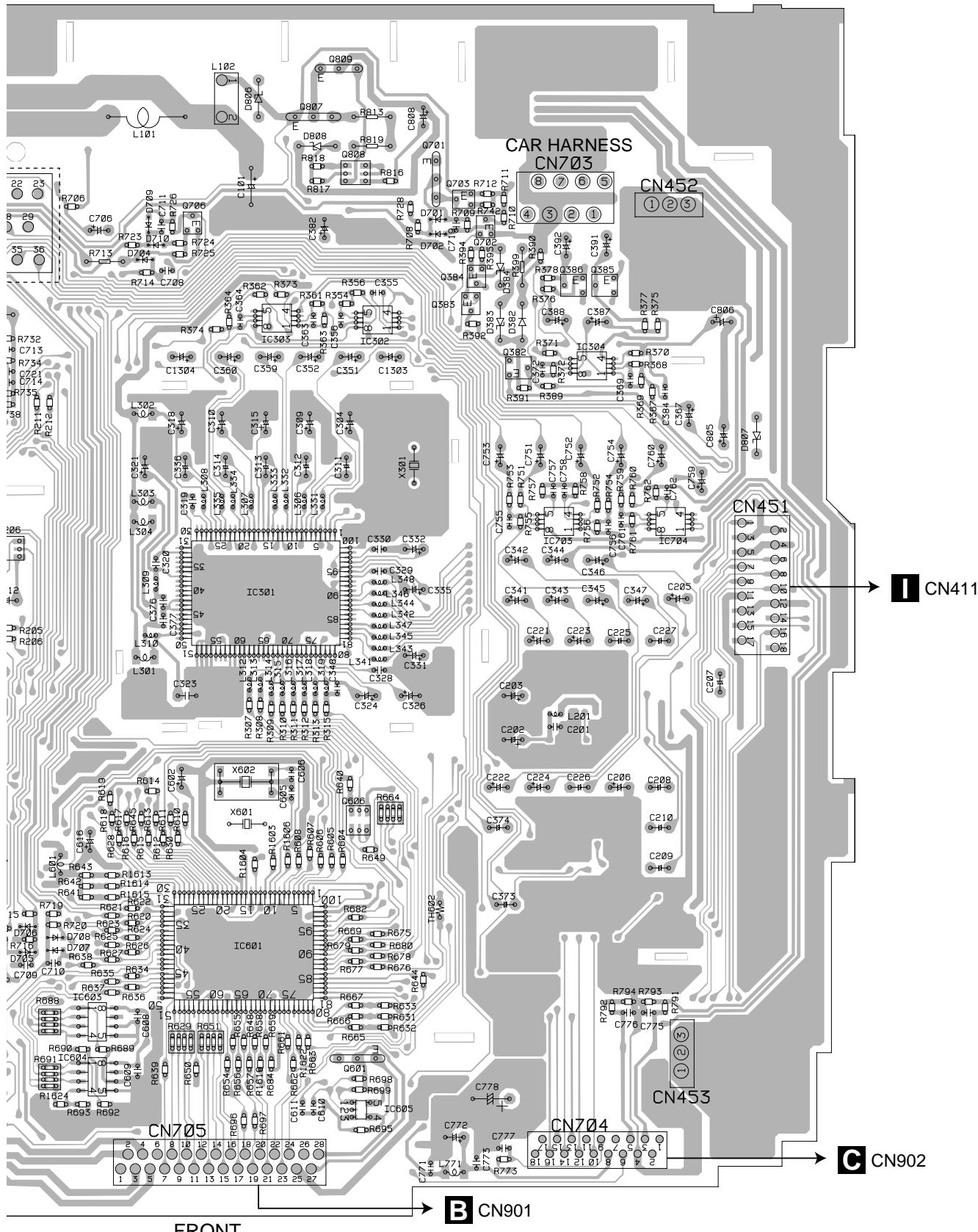
E

F



A

SIDE A

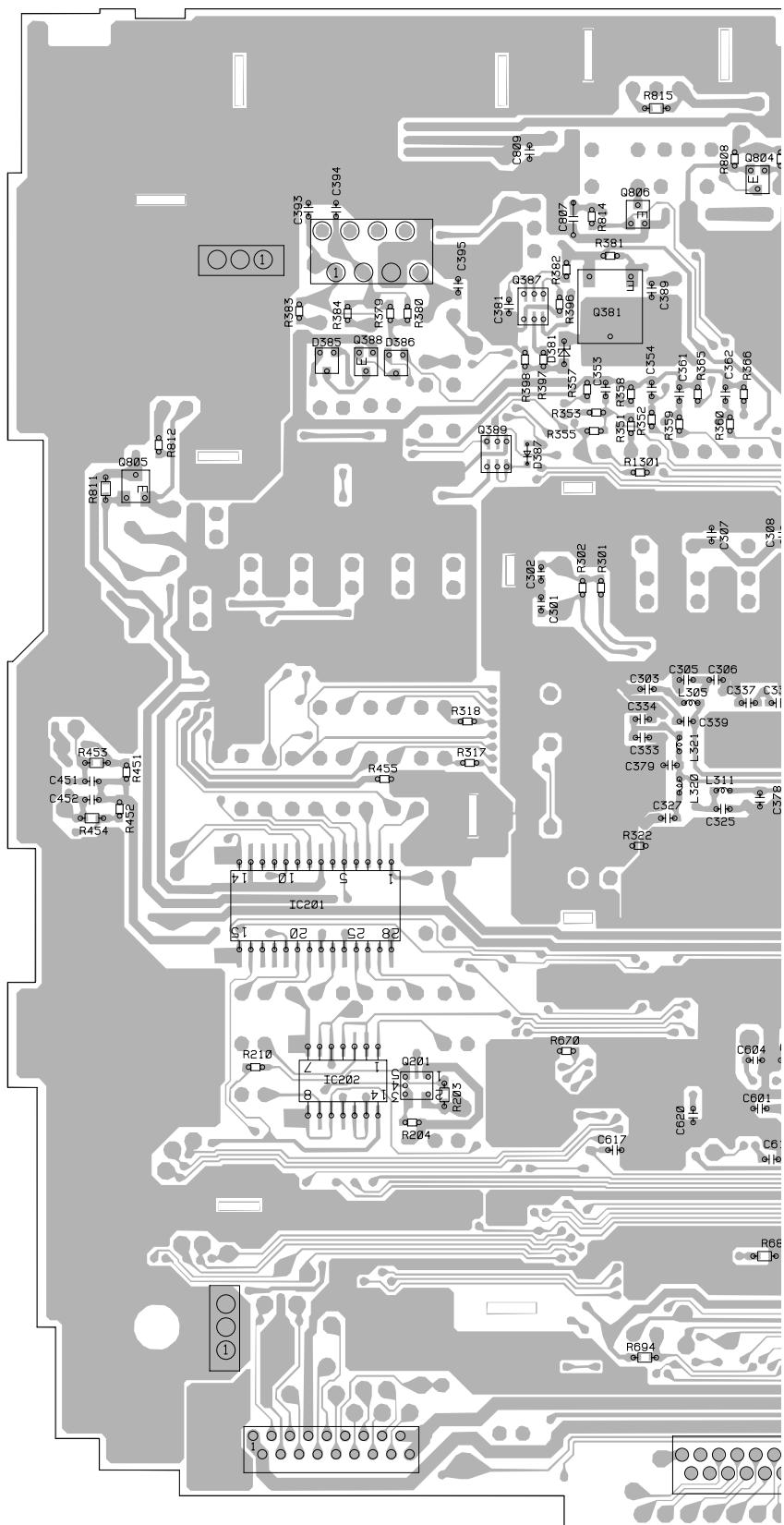


## FRONT

**B** CN901

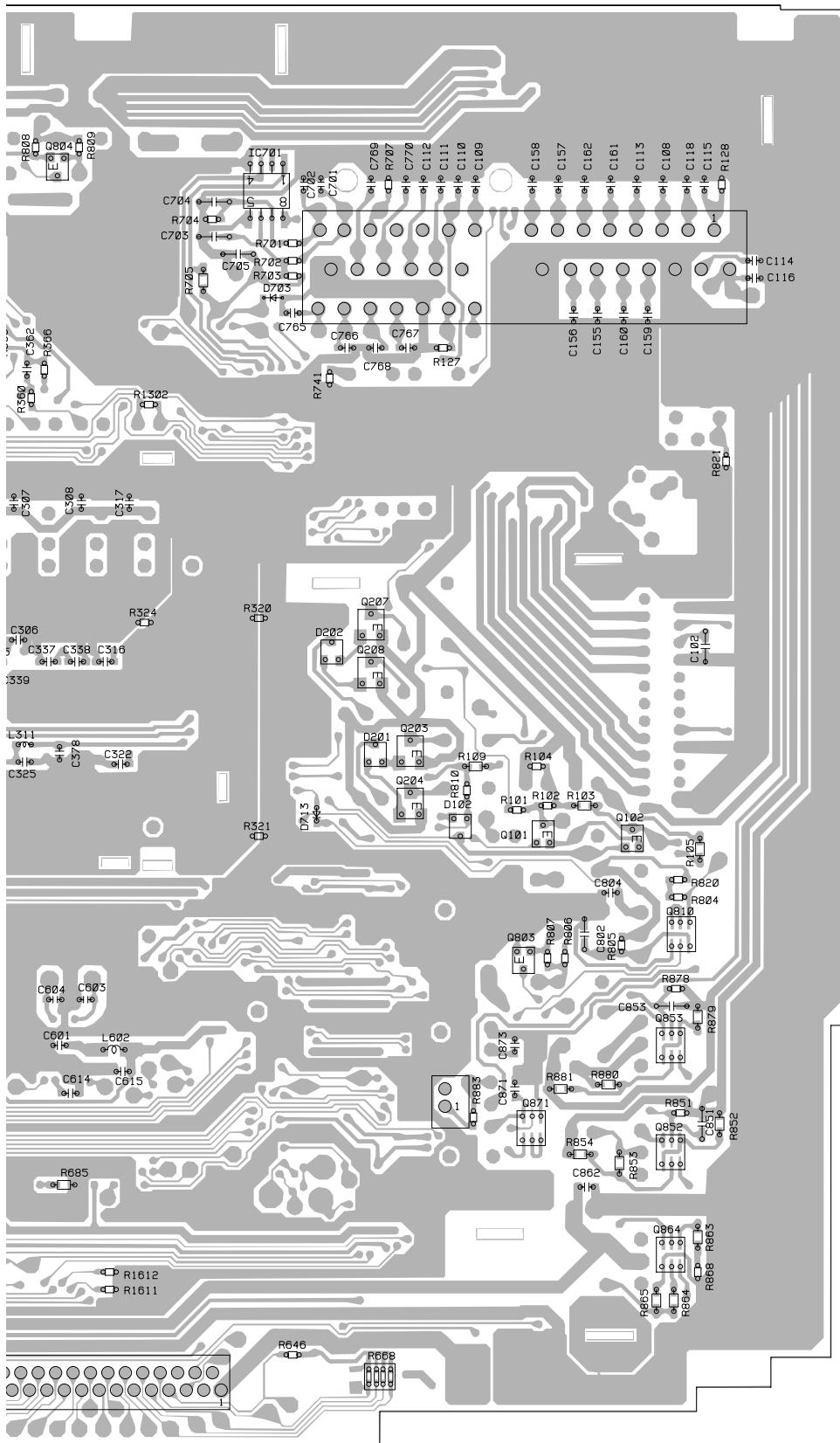
A

## A MOTHER UNIT



A

**SIDE B**



IC, Q

Q804 IC701

Q806

Q387

114

Q389  
Q805

Q207

Q208

Q203

Q204

Q102  
Q101  
IC201

Q810  
Q803

Q201  
IC202 Q853

Q871  
Q852

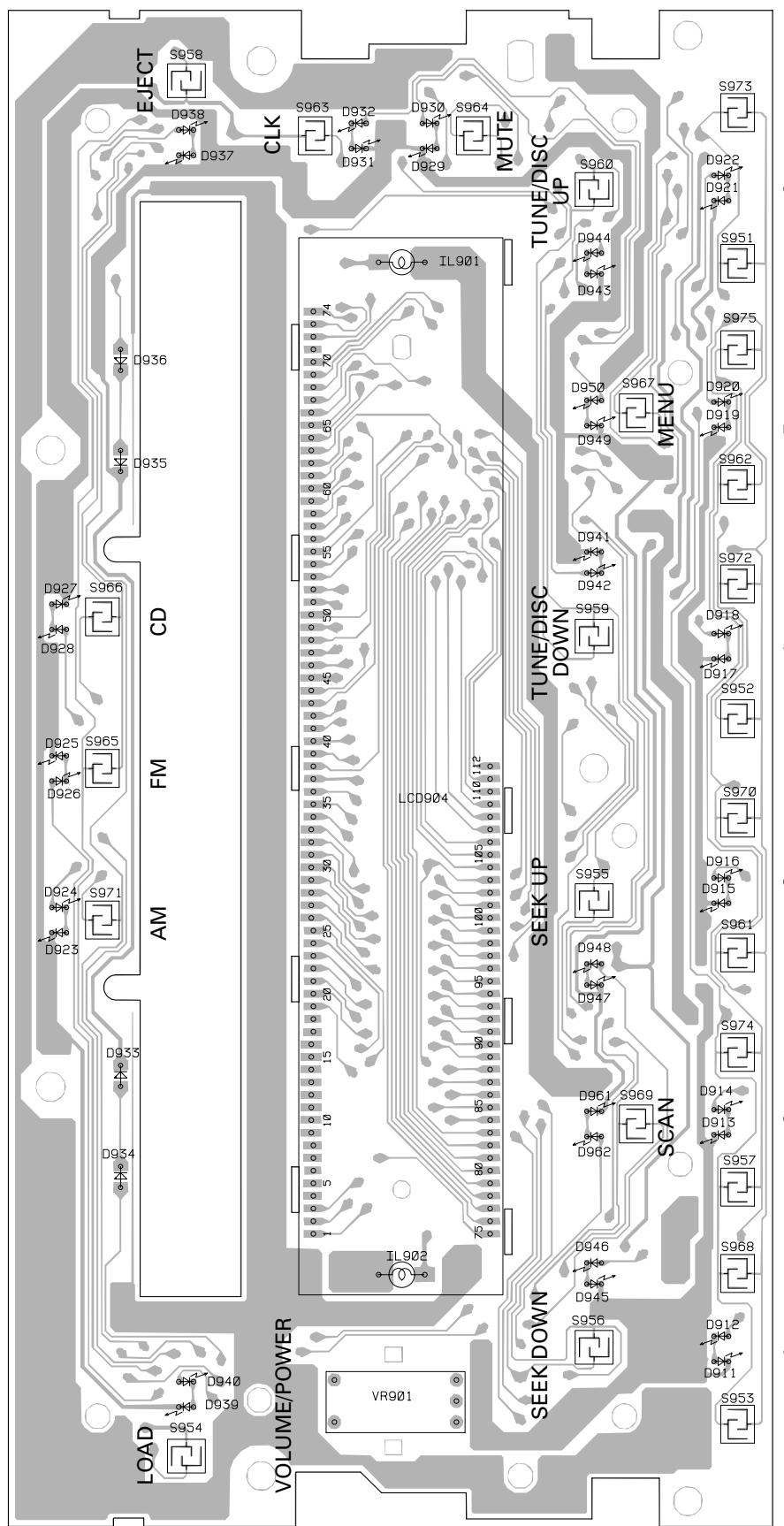
Q864

A

## 4.2 KEYBOARD UNIT

### B KEYBOARD UNIT

SIDE A

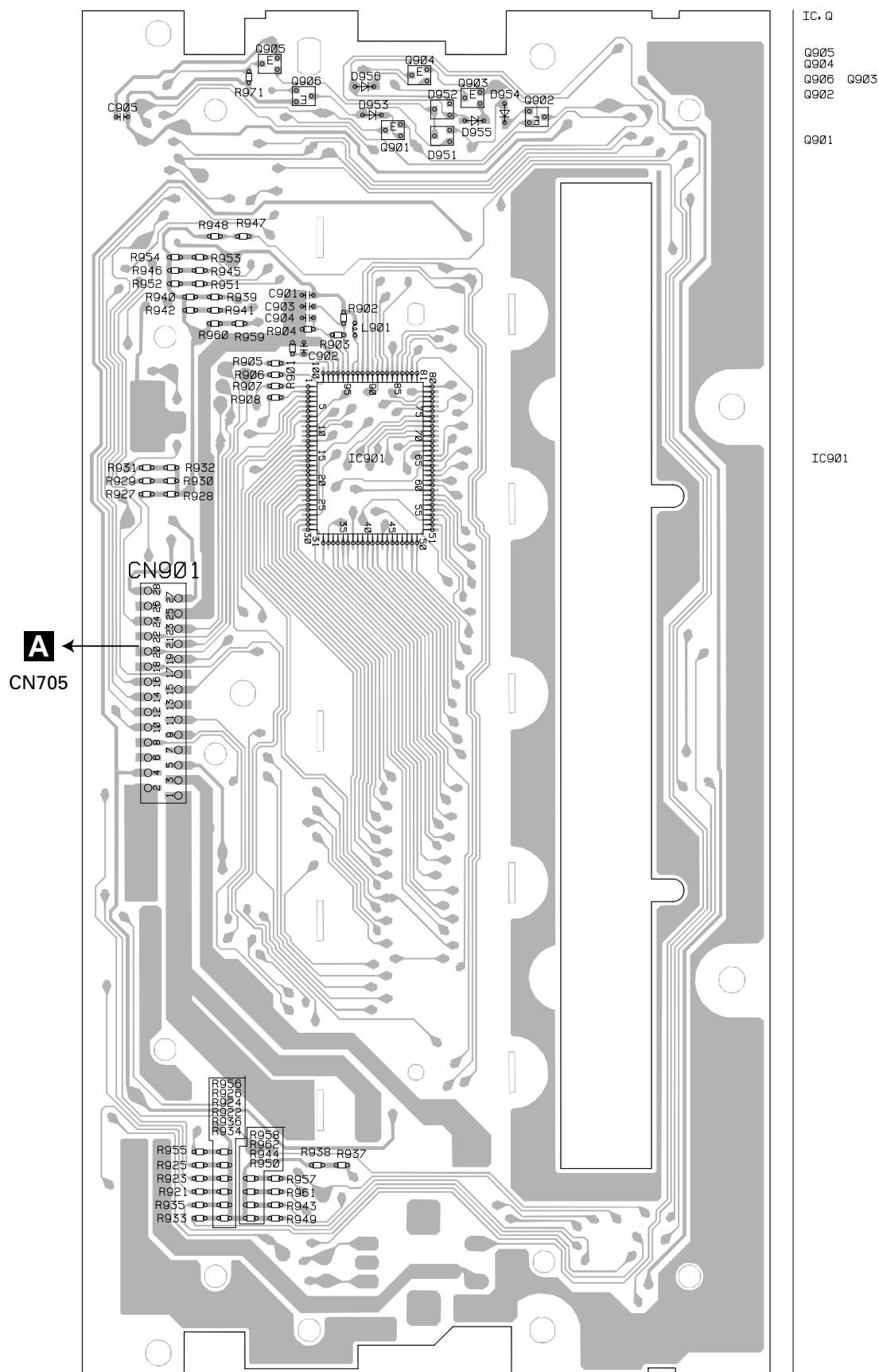


B

40

DEH-MG2037ZF/XU/UC

**B** KEYBOARD UNIT

**SIDE B**


## 4.3 CD MECHANISM MODULE

**C** CONTROL UNIT  
(G2BM)

IC,Q

**SIDE A**

A

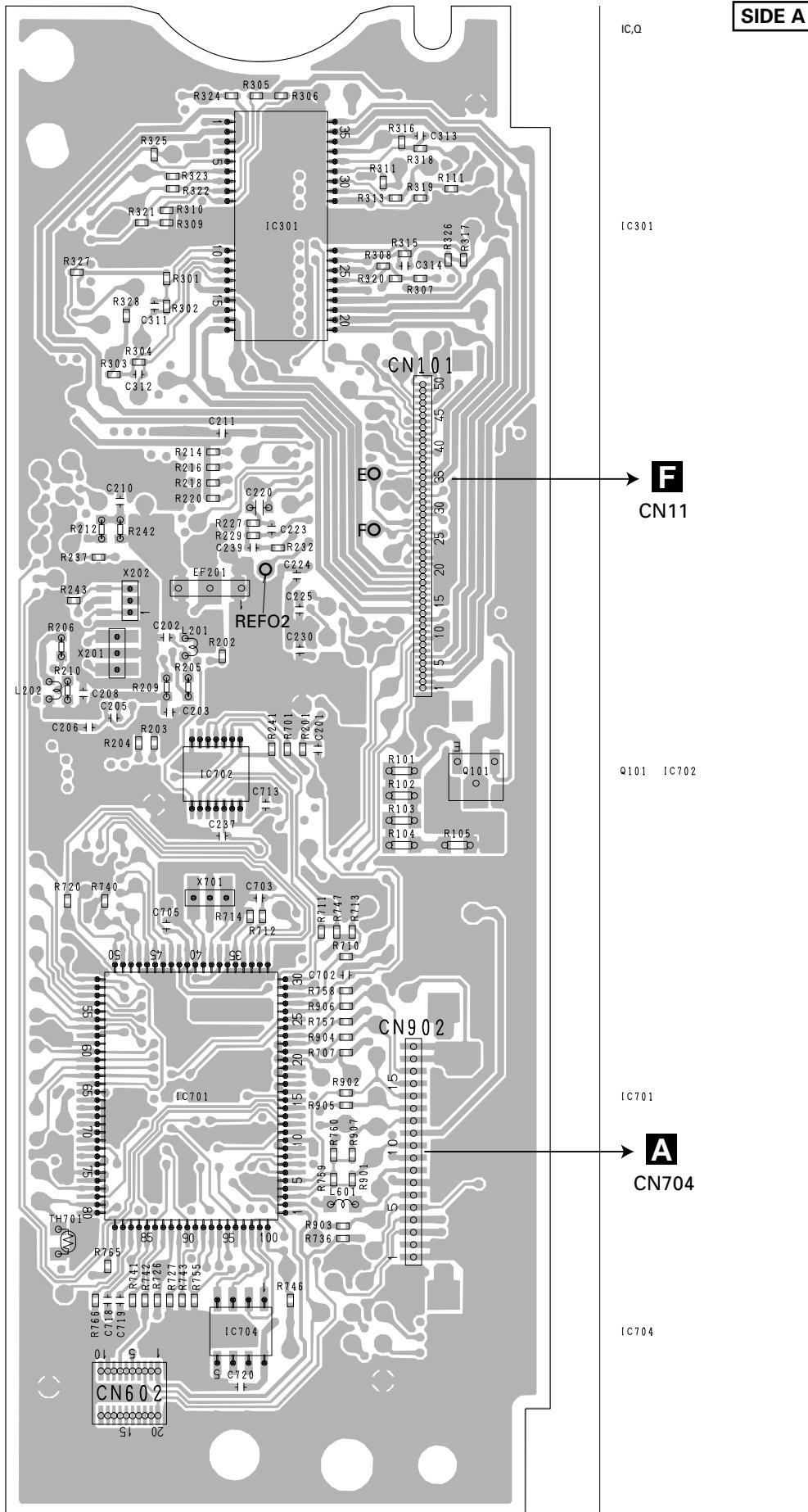
B

C

D

E

F



**C**

42

DEH-MG2037ZF/XU/UC

1

2

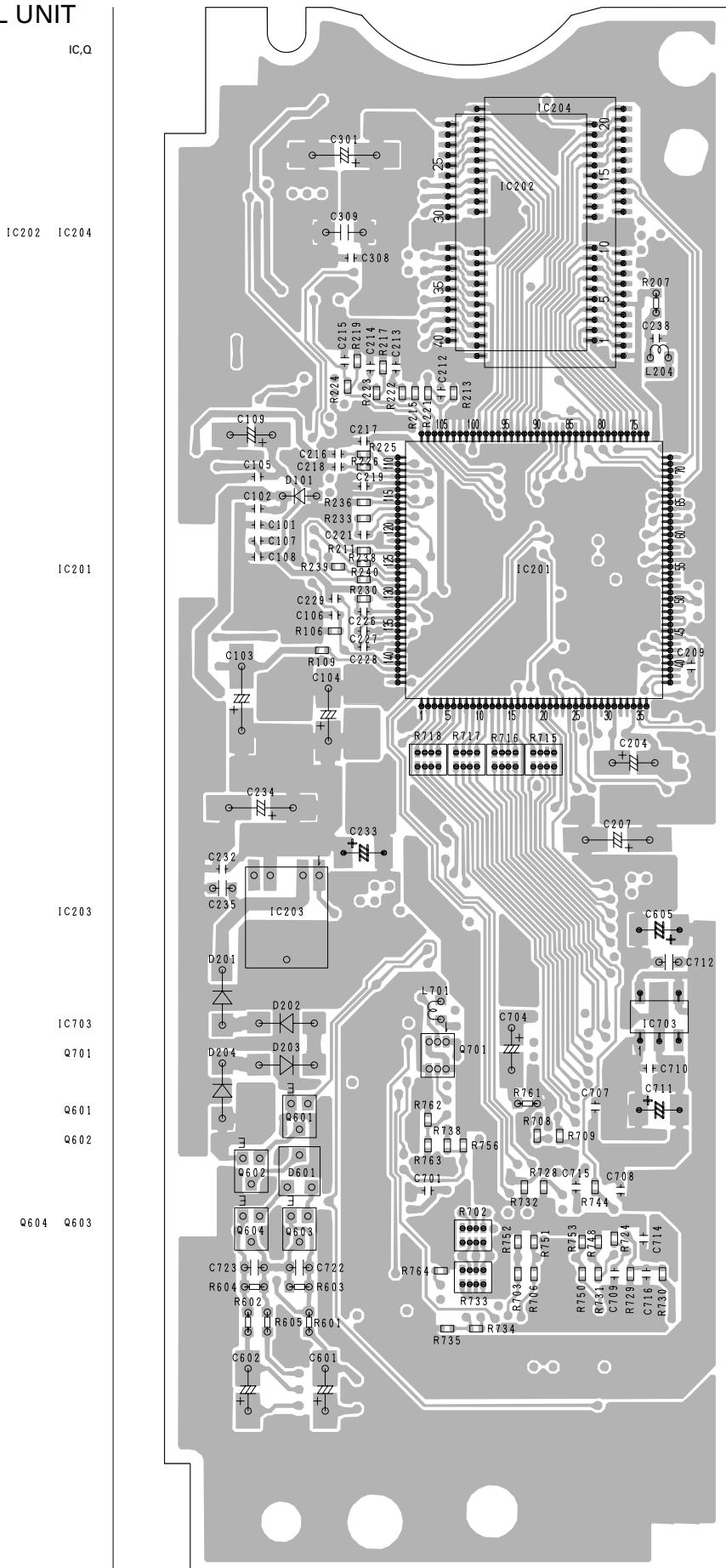
3

4

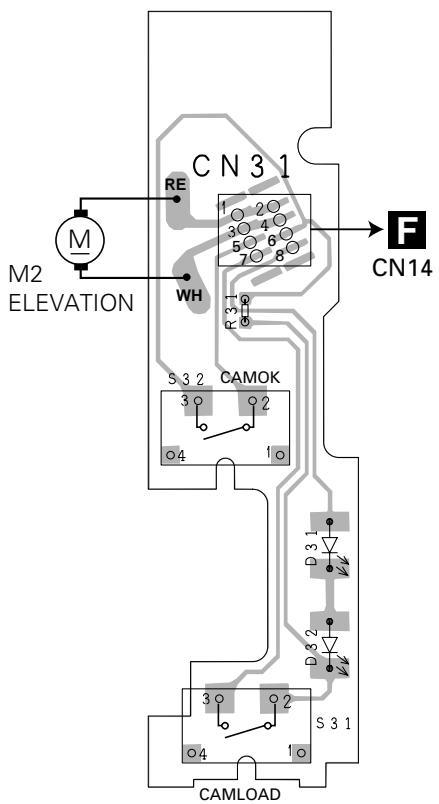
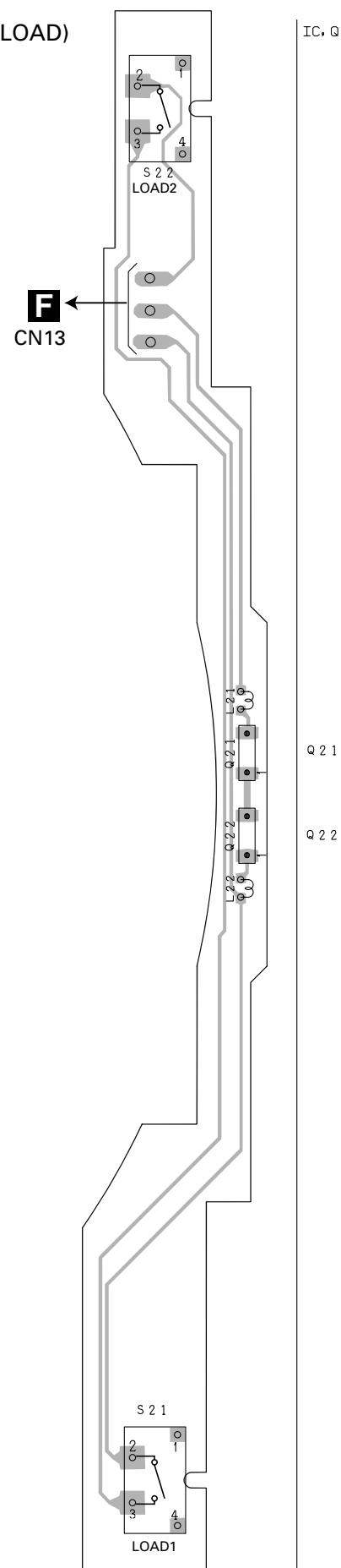
# C CONTROL UNIT (G2BM)

1C,Q

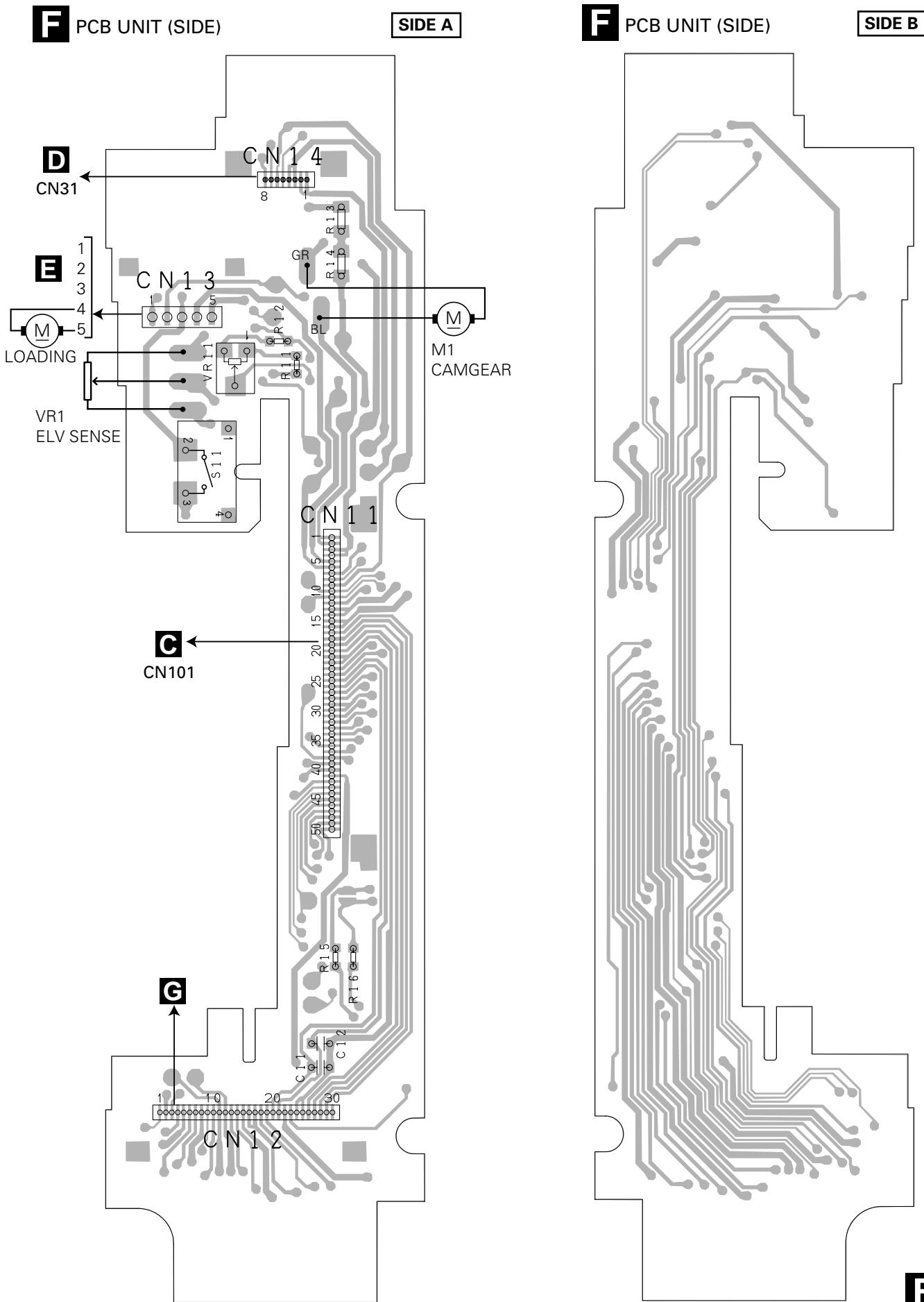
**SIDE B**

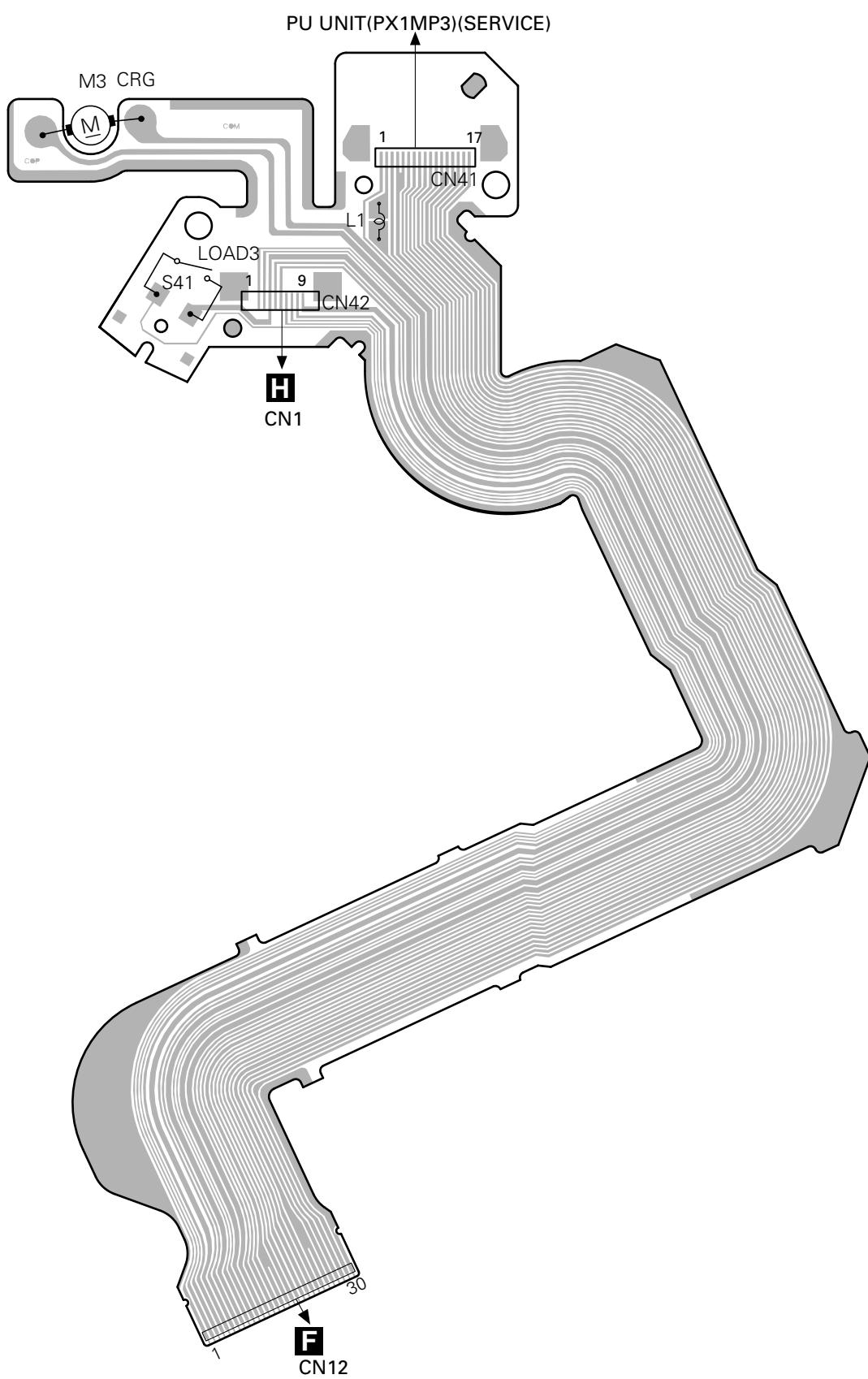


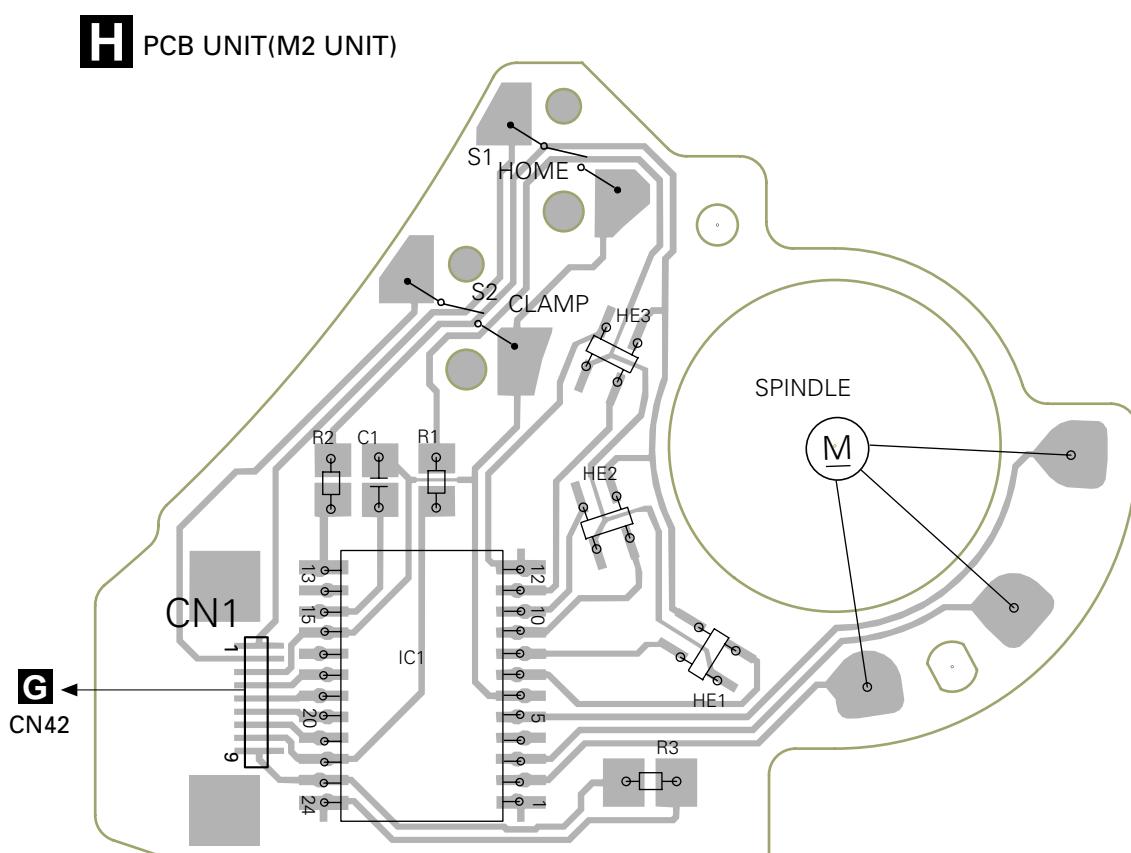
C

**D** PCB UNIT (LED)**E** PCB UNIT (LOAD)**D E**

44



**G** PCB UNIT



## 4.4 TUNER RELAY UNIT

A

## I TUNER RELAY UNIT

**SIDE A**

## TUNER RELAY UNIT

**SIDE B**

IC, Q

B

6

D

5

F

48

## 5. ELECTRICAL PARTS LIST

### NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

#### Chip Resistor

RS1/OS000J, RS1/OOS000J

#### Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

=====Circuit Symbol and No.=====Part Name			Part No.	=====Circuit Symbol and No.=====Part Name	Part No.
<b>A</b>	Unit Number : CWM8234(DEH-MG8037ZF/XU/UC)		D 101	Diode	P300JL-5001
	Unit Name : Mother Unit		D 102	Diode	DAN202U
	MISCELLANEOUS		D 103	Diode	DAN202U
			D 104	Diode	DAN202U
			D 381	Diode	HZU2R7(B1)
IC 101	IC	TDA7384	D 382	Diode	1SS133
IC 111	IC	NJM2904V	D 383	Diode	HZS6L(B2)
IC 112	IC	NJM2904V	D 384	Diode	HZS6L(C1)
IC 301	IC	PM2010A	D 385	Diode	DAP202U
IC 302	IC	NJM4558V	D 386	Diode	DAN202U
IC 303	IC	NJM4558V	D 387	Diode	1SS355
IC 304	IC	NJM4558V	D 711	Diode	HZS6L(B2)
IC 601	IC	PD5754A	D 712	Diode	HZS12L(C1)
IC 602	IC	S-80843CNUA-B84	D 801	Diode	1SS133
IC 604	IC	PDH053C	D 802	Diode	HZS9L(A2)
IC 605	IC	TC7S86F	D 804	Diode	HZS6L(B1)
Q 101	Transistor	DTC124EU	D 805	Diode	HZS7L(C2)
Q 102	Transistor	DTC124EU	D 806	Diode	HZS9L(B2)
Q 104	Transistor	DTC124EU	D 807	Diode	HZS5LL(B)
Q 381	Transistor	2SB1184F5	D 808	Diode	HZS9L(A1)
Q 382	Transistor	2SA1162	D 809	Diode	MPG06G-6415G3
Q 383	Transistor	DTC124EU	D 853	Diode	HZS9L(A3)
Q 384	Transistor	2SC4081	D 871	Diode	HZS12L(B1)
Q 385	Transistor	DTC343TK	L 101	Choke Coil 600μH	CTH1221
Q 386	Transistor	DTC343TK	L 102	Inductor	CTF1449
Q 387	Transistor	IMX1	L 301	Inductor	LCTA2R2J2520
Q 388	Transistor	DTA124EU	L 302	Inductor	LCTA2R2J2520
Q 389	Transistor	IMD2A	L 303	Inductor	LCTA2R2J2520
Q 601	Transistor	2SB1238	L 304	Inductor	LCTA2R2J2520
Q 602	Transistor	DTA124EU	L 305	Inductor	CTF1379
Q 604	Transistor	DTA124EU	L 306	Inductor	CTF1379
Q 605	Transistor	DTC124EU	L 307	Inductor	CTF1379
Q 709	Transistor	2SC4081	L 308	Inductor	CTF1379
Q 710	Transistor	DTA124EU	L 309	Inductor	CTF1379
Q 711	Transistor	2SC4081	L 310	Inductor	CTF1379
Q 801	Transistor	2SC4081	L 311	Inductor	CTF1379
Q 802	Transistor	2SD2375	L 312	Inductor	CTF1379
Q 803	Transistor	2SC4081	L 313	Inductor	CTF1379
Q 804	Transistor	2SC4081	L 314	Inductor	CTF1379
Q 805	Transistor	2SC2712	L 316	Inductor	CTF1379
Q 806	Transistor	DTC124EU	L 317	Inductor	CTF1379
Q 807	Transistor	2SB1238	L 318	Inductor	CTF1379
Q 808	Transistor	IMX1	L 319	Inductor	CTF1379
Q 809	Transistor	2SB1185	L 320	Inductor	CTF1379
Q 810	Transistor	IMD3A	L 321	Inductor	CTF1379
Q 851	Transistor	2SB1185	L 331	Inductor	CTF1379
Q 852	Transistor	IMX1	L 332	Inductor	CTF1379
Q 853	Transistor	IMX1	L 333	Inductor	CTF1379
Q 854	Transistor	2SA1576	L 334	Inductor	CTF1379
Q 855	Transistor	2SB1185	L 335	Inductor	CTF1379
Q 863	Transistor	2SB1185	L 341	Inductor	CTF1379
Q 864	Transistor	IMX1	L 342	Inductor	CTF1379
Q 865	Transistor	IMD3A	L 343	Inductor	CTF1379
Q 871	Transistor	IMD3A	L 344	Inductor	CTF1379
Q 872	Transistor	2SD1859	L 601	Inductor	LCTA2R2J2520

=====Circuit Symbol and No.====Part Name			Part No.	=====Circuit Symbol and No.====Part Name	Part No.
A	L 602	Inductor	LCTA2R2J2520	R 373	RS1/16SOR0J
	L 771	Inductor	LCTA2R2J2520	R 374	RS1/16SOR0J
	TH 601	Thermistor	CCX1015	R 375	RS1/16S473J
	X 301	Radiator 33.8688MHz	CSS1595	R 376	RS1/16S473J
	X 601	Radiator 16.000MHz	CSS1571	R 377	RS1/16S102J
	X 602	Radiator 32.768kHz	CSS1319	R 378	RS1/16S102J
	M 871	Fan Motor	CXM1283	R 381	RS1/16S223J
				R 382	RS1/16S332J
				R 383	RS1/16SOR0J
				R 384	RS1/16SOR0J
RESISTORS					
B	R 101		RS1/16S103J		
	R 102		RS1/16S221J	R 389	RS1/16S103J
	R 103		RS1/16S101J	R 390	RS1/16S103J
	R 104		RS1/16S153J	R 391	RS1/16S221J
	R 105		RS1/16S103J	R 392	RS1/16S822J
	R 106		RS1/16S101J	R 394	RS1/16S473J
	R 109		RS1/16S333J	R 395	RS1/16S473J
	R 111		RS1/16S103J	R 396	RS1/16S391J
	R 112		RS1/16S103J	R 397	RS1/16S471J
	R 113		RS1/16S103J	R 398	RS1/16S121J
C	R 114		RS1/16S103J	R 399	RD1/4PU101J
	R 115		RS1/16S104J	R 451	RS1/16S162J
	R 116		RS1/16S104J	R 452	RS1/16S162J
	R 117		RS1/16S104J	R 453	RS1/16S272J
	R 118		RS1/16S104J	R 454	RS1/16S272J
	R 119		RS1/16S682J	R 601	RS1/16S104J
	R 120		RS1/16S821J	R 604	RS1/16S471J
	R 121		RS1/16S682J	R 605	RS1/16S471J
	R 122		RS1/16S821J	R 606	RS1/16S471J
	R 123		RS1/16S682J	R 607	RS1/16S472J
D	R 124		RS1/16S821J	R 608	RS1/16S102J
	R 125		RS1/16S682J	R 609	RS1/16S472J
	R 126		RS1/16S821J	R 610	RS1/16S473J
	R 205		RS1/16S0R0J	R 611	RS1/16S102J
	R 206		RS1/16S0R0J	R 612	RS1/16S0R0J
	R 211		RS1/16S0R0J	R 613	RS1/16S102J
	R 212		RS1/16S0R0J	R 614	RS1/16S473J
	R 301		RS1/16S101J	R 616	RS1/16S102J
	R 302		RS1/16S225J	R 618	RS1/16S102J
	R 307		RS1/16S471J	R 619	RS1/16S473J
E	R 308		RS1/16S471J	R 624	RS1/16S471J
	R 309		RS1/16S471J	R 625	RS1/16S471J
	R 311		RS1/16S471J	R 626	RS1/16S471J
	R 312		RS1/16S471J	R 627	RS1/16S102J
	R 313		RS1/16S471J	R 628	RS1/16S102J
	R 315		RS1/16S471J	R 629	RAB4C102J
	R 317		RS1/16S332J	R 631	RS1/16S682J
	R 318		RS1/16S332J	R 632	RS1/16S682J
	R 351		RS1/16S123J	R 633	RS1/16S473J
	R 352		RS1/16S123J	R 634	RS1/16S471J
F	R 353		RS1/16S123J	R 636	RS1/16S471J
	R 354		RS1/16S123J	R 637	RS1/16S471J
	R 355		RS1/16S123J	R 639	RS1/16S102J
	R 356		RS1/16S123J	R 640	RS1/16S473J
	R 357		RS1/16S123J	R 641	RS1/16S682J
	R 358		RS1/16S123J	R 642	RS1/16S682J
	R 359		RS1/16S123J	R 643	RS1/16S682J
	R 360		RS1/16S123J	R 645	RS1/16S102J
	R 361		RS1/16S123J	R 646	RS1/16S473J
	R 362		RS1/16S123J	R 648	RS1/16SOR0J
G	R 363		RS1/16S123J	R 650	RS1/16S473J
	R 364		RS1/16S123J	R 651	RAB4C102J
	R 365		RS1/16S123J	R 654	RS1/16S102J
	R 366		RS1/16S123J	R 655	RS1/16S102J
	R 367		RS1/16S103J	R 656	RS1/16SOR0J
	R 368		RS1/16S103J	R 657	RS1/16S471J
	R 369		RS1/16S103J	R 658	RS1/16S471J
	R 370		RS1/16S103J	R 659	RS1/16S472J
	R 371		RS1/16S103J	R 661	RS1/16S102J
	R 372		RS1/16S103J	R 664	RAB4C472J
				R 665	RS1/16S471J

=====Circuit Symbol and No.=====Part Name		Part No.	=====Circuit Symbol and No.=====Part Name	Part No.
R 666		RS1/16S471J	R 878	RS1/16S105J
R 667		RS1/16S471J	R 879	RS1/16S681J
R 668		RAB4C473J	R 880	RS1/16S152J
R 669		RS1/16S471J	R 881	RS1/16S222J
R 670		RS1/16S473J	R 882	RS1/16S681J
R 675		RS1/16S471J	R 883	RS1/16S1R0J
R 678		RS1/16S471J	R 1301	RS1/16S0R0J
R 679		RS1/16S471J	R 1302	RS1/16S0R0J
R 680		RS1/16S471J	R 1603	RS1/16S0R0J
R 682		RS1/16S0R0J	R 1604	RS1/16S0R0J
R 684		RS1/16S473J	R 1606	RS1/16S0R0J
R 686		RS1/16S473J	R 1607	RS1/16S101J
R 687		RS1/16S102J	R 1611	RS1/16S473J
R 691		RAB4C102J	R 1612	RS1/16S473J
R 692		RS1/16S473J	R 1613	RS1/16S471J
R 693		RS1/16S473J	R 1614	RS1/16S471J
R 694		RS1/16S473J	R 1615	RS1/16S471J
R 695		RS1/16S473J	R 1619	RS1/16S472J
R 696		RS1/16S222J	R 1623	RS1/16S473J
R 697		RS1/16S222J	R 1624	RS1/16S103J
R 698		RS1/16S223J	CAPACITORS	
R 699		RS1/16S223J		
R 727		RS1/16S472J	C 101	CEAT332M16
R 731		RD1/4PU102J	C 102	CKSRYB104K16
R 733		RS1/16S104J	C 103	CEJQ1R0M50
			C 104	CFTNA105J50
R 734		RS1/16S473J	C 105	CEJQ100M16
R 735		RS1/16S473J		
R 736		RS1/16S473J	C 106	CEAT330M16
R 737		RS1/16S472J	C 107	CEJQR10M50
R 738		RS1/16S472J	C 108	CKSRYB473K50
			C 113	CKSRYB473K50
R 739		RS1/16S473J	C 114	CKSRYB473K50
R 740		RS1/16S473J		
R 741		RS1/16S0R0J	C 115	CKSRYB102K50
R 773		RS1/16S102J	C 116	CKSRYB473K50
R 791		RS1/16S152J	C 118	CKSRYB102K50
			C 151	CFTNA224J50
R 792		RS1/16S152J	C 152	CFTNA224J50
R 801		RD1/4PU102J		
R 802		RS1/16S473J	C 153	CFTNA224J50
R 803		RS1/16S473J	C 154	CKSRYB102K50
R 804		RS1/16S471J	C 155	CKSRYB102K50
			C 156	CKSRYB102K50
R 805		RS1/16S223J	C 157	CKSRYB102K50
R 806		RS1/16S473J		
R 807		RS1/16S473J	C 158	CKSRYB102K50
R 808		RS1/16S473J	C 159	CKSRYB102K50
R 809		RS1/16S473J	C 160	CKSRYB102K50
			C 161	CKSRYB102K50
R 810		RS1/16S472J	C 162	CKSRYB102K50
R 811		RS1/16S222J		
R 812		RS1/16S102J	C 301	CCSRCH100D50
R 813		RD1/4PU821J	C 302	CCSRCH100D50
R 814		RS1/16S562J	C 303	CKSRYB104K16
			C 304	CEJQ220M6R3
R 815		RS1/16S223J	C 305	CKSRYB104K16
R 816		RS1/16S391J		
R 817		RS1/16S471J	C 306	CKSRYB104K16
R 818		RS1/16S102J	C 307	CKSRYB104K16
R 819		RD1/4PU821J	C 308	CKSRYB104K16
			C 309	CEJQ220M6R3
R 820		RS1/16S471J	C 310	CEJQ220M6R3
R 851		RS1/16S105J		
R 852		RS1/16S471J	C 311	CEJQNP3R3M25
R 853		RS1/16S152J	C 312	CEJQNP3R3M25
R 854		RS1/16S222J	C 313	CEJQNP3R3M25
			C 314	CEJQ101M6R3
R 861		RS1/16S562J	C 315	CEJQ101M6R3
R 862		RS1/16S223J		
R 863		RS1/16S101J	C 316	CKSRYB104K16
R 864		RS1/16S471J	C 317	CKSRYB104K16
R 865		RS1/16S102J	C 318	CEJQ220M6R3
			C 319	CKSRYB222K50
R 866		RS1/16S101J	C 320	CKSRYB104K16
R 867		RS1/16S101J		
R 868		RS1/16S101J		
R 876		RD1/4PU1R8J		
R 877		RS1/16S102J		

=====Circuit Symbol and No.=====Part Name		Part No.	=====Circuit Symbol and No.=====Part Name		Part No.
A	C 321	CEJQ220M6R3	C 801		CEAT102M16(P35)
	C 322	CKSRYB104K16	C 802		CKSRYB473K50
	C 323	CASA100M6R3	C 803		CEAT221M6R3
	C 324	CEJQ220M6R3	C 804		CKSRYB104K16
	C 325	CKSRYB104K16	C 805		CEAL100M16
	C 326	CEJQ220M6R3	C 806		CEAT331M6R3
	C 327	CKSRYB104K16	C 807		CKSRYB223K50
	C 328	CKSRYB222K50	C 808		CEAT101M10
	C 329	CKSRYB222K50	C 809		CKSRYB102K50
	C 330	CKSRYB222K50	C 810		CKSRYB473K50
B	C 331	CEJQ220M6R3	C 851		CKSRYB472K50
	C 332	CEJQ220M6R3	C 852		CEAT101M10
	C 333	CKSRYB104K16	C 853		CKSRYB472K50
	C 334	CKSRYB104K16	C 854		CEAT101M10
	C 335	CEJQ220M6R3	C 860		CKSRYB223K50
	C 336	CEJQNP3R3M25	C 861		CEAT101M16
	C 337	CKSRYB104K16	C 862		CKSRYB102K50
	C 338	CKSRYB104K16	C 871		CKSRYB103K50
	C 341	CEJQ3R3M50	C 872		CEJQ100M16
	C 342	CEJQ3R3M50	C 873		CKSRYB103K50
C	C 343	CEJQ3R3M50		<b>A</b>	Unit Number : CWM8235(DEH-MG8137ZF/XU/UC)
	C 344	CEJQ3R3M50			Unit Name : Mother Unit
	C 348	CKSRYB102K50			
	C 351	CEJQ100M16			
	C 352	CEJQ100M16			
	C 353	CKSRYB102K50	IC 101	IC	TDA7384
	C 354	CKSRYB102K50	IC 111	IC	NJM2904V
	C 355	CCSRCH221J50	IC 112	IC	NJM2904V
	C 356	CCSRCH221J50	IC 301	IC	PM2010A
	C 359	CEJQ100M16	IC 302	IC	NJM4558V
D	C 360	CEJQ100M16	IC 303	IC	NJM4558V
	C 361	CKSRYB102K50	IC 601	IC	PD5754A
	C 362	CKSRYB102K50	IC 602	IC	S-80843CNUA-B84
	C 363	CCSRCH221J50	IC 604	IC	PDH054C
	C 364	CCSRCH221J50	IC 605	IC	TC7S86F
	C 367	CEJQ100M16	Q 101	Transistor	DTC124EU
	C 369	CKSRYB332K50	Q 102	Transistor	DTC124EU
	C 372	CKSRYB332K50	Q 104	Transistor	DTC124EU
	C 381	CKSRYB223K50	Q 381	Transistor	2SB1184F5
	C 382	CEAT101M10	Q 387	Transistor	IMX1
E	C 384	CKSRYB332K50	Q 601	Transistor	2SB1238
	C 387	CEJQ100M16	Q 602	Transistor	DTA124EU
	C 388	CEJQ100M16	Q 604	Transistor	DTA124EU
	C 389	CKSRYB102K50	Q 605	Transistor	DTC124EU
	C 393	CKSRYB102K50	Q 709	Transistor	2SC4081
	C 394	CKSRYB102K50	Q 710	Transistor	DTA124EU
	C 395	CKSRYB102K50	Q 711	Transistor	2SC4081
	C 451	CKSRYB183K50	Q 801	Transistor	2SC4081
	C 452	CKSRYB183K50	Q 802	Transistor	2SD2375
	C 601	CKSRYB102K50	Q 803	Transistor	2SC4081
F	C 602	CEJQ100M16	Q 804	Transistor	2SC4081
	C 603	CCSRCH220J50	Q 805	Transistor	2SC2712
	C 604	CCSRCH220J50	Q 806	Transistor	DTC124EU
	C 605	CCSRCH220J50	Q 807	Transistor	2SB1238
	C 606	CCSRCH180J50	Q 808	Transistor	IMX1
	C 607	CKSRYB104K16	Q 809	Transistor	2SB1185
	C 609	CKSRYB104K16	Q 810	Transistor	IMD3A
	C 610	CCSRCH681J50	Q 851	Transistor	2SB1185
	C 611	CCSRCH681J50	Q 852	Transistor	IMX1
	C 612	CEJQR22M50	Q 853	Transistor	IMX1
G	C 613	CEJQ220M6R3	Q 854	Transistor	2SA1576
	C 617	CKSRYB473K50	Q 855	Transistor	2SB1185
	C 712	CCSRCH221J50	Q 863	Transistor	2SB1185
	C 713	CCSRCH181J50	Q 864	Transistor	IMX1
	C 714	CKSRYB102K50	Q 865	Transistor	IMD3A
	C 720	CKSRYB103K50	Q 871	Transistor	IMD3A
	C 721	CKSRYB473K50	Q 872	Transistor	2SD1859
	C 772	CEJQ100M16	D 101	Diode	P300JL-5001
	C 773	CKSRYB104K16	D 102	Diode	DAN202U
	C 778	CEAT471M10	D 103	Diode	DAN202U

=====Circuit Symbol and No.=====Part Name			Part No.	=====Circuit Symbol and No.=====Part Name	Part No.
D 104	Diode	DAN202U	R 119		RS1/16S682J
D 381	Diode	HZU2R7(B1)	R 120		RS1/16S821J
D 711	Diode	HZS6L(B2)	R 121		RS1/16S682J
D 712	Diode	HZS12L(C1)	R 122		RS1/16S821J
D 801	Diode	1SS133	R 123		RS1/16S682J
D 802	Diode	HZS9L(A2)	R 124		RS1/16S821J
D 804	Diode	HZS6L(B1)	R 125		RS1/16S682J
D 805	Diode	HZS7L(C2)	R 126		RS1/16S821J
D 806	Diode	HZS9L(B2)	R 205		RS1/16S0R0J
D 807	Diode	HZS5LL(B)	R 206		RS1/16S0R0J
D 808	Diode	HZS9L(A1)	R 211		RS1/16S0R0J
D 809	Diode	MPG06G-6415G3	R 212		RS1/16S0R0J
D 853	Diode	HZS9L(A3)	R 301		RS1/16S101J
D 871	Diode	HZS12L(B1)	R 302		RS1/16S225J
L 101	Choke Coil 600μH	CTH1221	R 307		RS1/16S471J
L 102	Inductor	CTF1449	R 308		RS1/16S471J
L 301	Inductor	LCTA2R2J2520	R 309		RS1/16S471J
L 302	Inductor	LCTA2R2J2520	R 311		RS1/16S471J
L 303	Inductor	LCTA2R2J2520	R 312		RS1/16S471J
L 304	Inductor	LCTA2R2J2520	R 313		RS1/16S471J
L 305	Inductor	CTF1379	R 315		RS1/16S471J
L 306	Inductor	CTF1379	R 317		RS1/16S332J
L 307	Inductor	CTF1379	R 318		RS1/16S332J
L 308	Inductor	CTF1379	R 351		RS1/16S123J
L 309	Inductor	CTF1379	R 352		RS1/16S123J
L 310	Inductor	CTF1379	R 353		RS1/16S123J
L 311	Inductor	CTF1379	R 354		RS1/16S123J
L 312	Inductor	CTF1379	R 355		RS1/16S123J
L 313	Inductor	CTF1379	R 356		RS1/16S123J
L 314	Inductor	CTF1379	R 357		RS1/16S123J
L 316	Inductor	CTF1379	R 358		RS1/16S123J
L 317	Inductor	CTF1379	R 359		RS1/16S123J
L 318	Inductor	CTF1379	R 360		RS1/16S123J
L 319	Inductor	CTF1379	R 361		RS1/16S123J
L 320	Inductor	CTF1379	R 362		RS1/16S123J
L 321	Inductor	CTF1379	R 363		RS1/16S123J
L 331	Inductor	CTF1379	R 364		RS1/16S123J
L 332	Inductor	CTF1379	R 365		RS1/16S123J
L 333	Inductor	CTF1379	R 366		RS1/16S123J
L 334	Inductor	CTF1379	R 373		RS1/16S0R0J
L 335	Inductor	CTF1379	R 374		RS1/16S0R0J
L 341	Inductor	CTF1379	R 381		RS1/16S223J
L 342	Inductor	CTF1379	R 382		RS1/16S332J
L 343	Inductor	CTF1379	R 396		RS1/16S391J
L 344	Inductor	CTF1379	R 397		RS1/16S471J
L 601	Inductor	LCTA2R2J2520	R 398		RS1/16S121J
L 602	Inductor	LCTA2R2J2520	R 451		RS1/16S162J
L 771	Inductor	LCTA2R2J2520	R 452		RS1/16S162J
TH 601	Thermistor	CCX1015	R 453		RS1/16S272J
X 301	Radiator 33.8688MHz	CSS1595	R 454		RS1/16S272J
X 601	Radiator 16.000MHz	CSS1571	R 601		RS1/16S104J
X 602	Radiator 32.768kHz	CSS1319	R 604		RS1/16S471J
M 871	Fan Motor	CXM1283	R 605		RS1/16S471J
RESISTORS			R 606		RS1/16S471J
R 101		RS1/16S103J	R 607		RS1/16S472J
R 102		RS1/16S221J	R 608		RS1/16S102J
R 103		RS1/16S101J	R 609		RS1/16S102J
R 104		RS1/16S153J	R 610		RS1/16S473J
R 105		RS1/16S103J	R 611		RS1/16S102J
R 106		RS1/16S101J	R 612		RS1/16S0R0J
R 109		RS1/16S333J	R 613		RS1/16S102J
R 111		RS1/16S103J	R 614		RS1/16S473J
R 112		RS1/16S103J	R 616		RS1/16S102J
R 113		RS1/16S103J	R 618		RS1/16S102J
R 114		RS1/16S103J	R 619		RS1/16S473J
R 115		RS1/16S104J	R 624		RS1/16S471J
R 116		RS1/16S104J	R 625		RS1/16S471J
R 117		RS1/16S104J	R 626		RS1/16S471J
R 118		RS1/16S104J	R 627		RS1/16S102J
		RS1/16S104J	R 628		RS1/16S102J

=====Circuit Symbol and No.====Part Name		Part No.	=====Circuit Symbol and No.====Part Name	Part No.
A	R 629	RAB4C102J	R 809	RS1/16S473J
	R 631	RS1/16S682J	R 810	RS1/16S472J
	R 632	RS1/16S682J	R 811	RS1/16S222J
	R 633	RS1/16S473J	R 812	RS1/16S102J
	R 634	RS1/16S471J	R 813	RD1/4PU821J
	R 636	RS1/16S471J	R 814	RS1/16S562J
	R 637	RS1/16S471J	R 815	RS1/16S223J
	R 639	RS1/16S102J	R 816	RS1/16S391J
	R 640	RS1/16S473J	R 817	RS1/16S471J
	R 641	RS1/16S682J	R 818	RS1/16S102J
B	R 642	RS1/16S682J	R 819	RD1/4PU821J
	R 643	RS1/16S682J	R 820	RS1/16S471J
	R 645	RS1/16S102J	R 851	RS1/16S105J
	R 646	RS1/16S473J	R 852	RS1/16S471J
	R 648	RS1/16S0R0J	R 853	RS1/16S152J
	R 650	RS1/16S473J	R 854	RS1/16S222J
	R 651	RAB4C102J	R 861	RS1/16S562J
	R 654	RS1/16S102J	R 862	RS1/16S223J
	R 655	RS1/16S102J	R 863	RS1/16S101J
	R 656	RS1/16S0R0J	R 864	RS1/16S471J
C	R 657	RS1/16S471J	R 865	RS1/16S102J
	R 658	RS1/16S471J	R 866	RS1/16S101J
	R 659	RS1/16S472J	R 867	RS1/16S101J
	R 661	RS1/16S102J	R 868	RS1/16S101J
	R 664	RAB4C472J	R 876	RD1/4PU1R8J
	R 665	RS1/16S471J	R 877	RS1/16S102J
	R 666	RS1/16S471J	R 878	RS1/16S105J
	R 667	RS1/16S471J	R 879	RS1/16S681J
	R 668	RAB4C473J	R 880	RS1/16S152J
	R 669	RS1/16S471J	R 881	RS1/16S222J
D	R 670	RS1/16S473J	R 882	RS1/16S681J
	R 675	RS1/16S471J	R 883	RS1/16S1R0J
	R 678	RS1/16S471J	R 1301	RS1/16S0R0J
	R 679	RS1/16S471J	R 1302	RS1/16S0R0J
	R 680	RS1/16S471J	R 1603	RS1/16S0R0J
	R 682	RS1/16S0R0J	R 1604	RS1/16S0R0J
	R 685	RS1/16S473J	R 1606	RS1/16S0R0J
	R 686	RS1/16S473J	R 1607	RS1/16S221J
	R 687	RS1/16S102J	R 1611	RS1/16S473J
	R 691	RAB4C102J	R 1612	RS1/16S473J
E	R 692	RS1/16S473J	R 1613	RS1/16S471J
	R 693	RS1/16S473J	R 1614	RS1/16S471J
	R 694	RS1/16S473J	R 1615	RS1/16S471J
	R 695	RS1/16S473J	R 1619	RS1/16S472J
	R 696	RS1/16S222J	R 1623	RS1/16S473J
	R 697	RS1/16S222J	R 1624	RS1/16S103J
	R 698	RS1/16S223J		
	R 699	RS1/16S223J		CAPACITORS
	R 727	RS1/16S472J		
	R 731	RD1/4PU102J		
F	R 733	RS1/16S104J	C 101	CEAT332M16
	R 734	RS1/16S473J	C 102	CKSRYB104K16
	R 735	RS1/16S473J	C 103	CEJQ1R0M50
	R 736	RS1/16S473J	C 104	CFTNA105J50
	R 737	RS1/16S472J	C 105	CEJQ100M16
	R 738	RS1/16S472J	C 106	CEAT330M16
	R 739	RS1/16S473J	C 107	CEJQR10M50
	R 740	RS1/16S473J	C 108	CKSRYB473K50
	R 741	RS1/16S0R0J	C 113	CKSRYB473K50
	R 773	RS1/16S102J	C 114	CKSRYB473K50
F	R 791	RS1/16S152J	C 115	CKSRYB102K50
	R 792	RS1/16S152J	C 116	CKSRYB102K50
	R 801	RD1/4PU102J	C 118	CFTNA224J50
	R 802	RS1/16S473J	C 151	CFTNA224J50
	R 803	RS1/16S473J	C 152	CFTNA224J50
	R 804	RS1/16S471J	C 153	CFTNA224J50
	R 805	RS1/16S223J	C 154	CFTNA224J50
	R 806	RS1/16S473J	C 155	CKSRYB102K50
F	R 807	RS1/16S473J	C 156	CKSRYB102K50
	R 808	RS1/16S473J	C 157	CKSRYB102K50

=====Circuit Symbol and No.=====Part Name		Part No.	=====Circuit Symbol and No.=====Part Name		Part No.
C 158		CKSRYB102K50	C 606		CCSRCH180J50
C 159		CKSRYB102K50	C 607		CKSRYB104K16
C 160		CKSRYB102K50	C 609		CKSRYB104K16
C 161		CKSRYB102K50	C 610		CCSRCH681J50
C 162		CKSRYB102K50	C 611		CCSRCH681J50
C 301		CCSRCH100D50	C 612		CEJQ1R0M50
C 302		CCSRCH100D50	C 613		CEJQ220M6R3
C 303		CKSRYB104K16	C 617		CKSRYB473K50
C 304		CEJQ220M6R3	C 712		CCSRCH221J50
C 305		CKSRYB104K16	C 713		CCSRCH181J50
C 306		CKSRYB104K16	C 714		CKSRYB102K50
C 307		CKSRYB104K16	C 720		CKSRYB103K50
C 308		CKSRYB104K16	C 721		CKSRYB473K50
C 309		CEJQ220M6R3	C 772		CEJQ100M16
C 310		CEJQ220M6R3	C 773		CKSRYB104K16
C 311		CEJQNP3R3M25	C 778		CEAT471M10
C 312		CEJQNP3R3M25	C 801		CEAT102M16(P35)
C 313		CEJQNP3R3M25	C 802		CKSRYB473K50
C 314		CEJQNP3R3M25	C 803		CEAT221M6R3
C 315		CEJQ101M6R3	C 804		CKSRYB104K16
C 316		CKSRYB104K16	C 805		CEAL100M16
C 317		CKSRYB104K16	C 806		CEAT331M6R3
C 318		CEJQ220M6R3	C 807		CKSRYB223K50
C 319		CKSRYB222K50	C 808		CEAT101M10
C 320		CKSRYB104K16	C 809		CKSRYB102K50
C 321		CEJQ220M6R3	C 810		CKSRYB473K50
C 322		CKSRYB104K16	C 851		CKSRYB472K50
C 323		CASA100M6R3	C 852		CEAT101M10
C 324		CEJQ220M6R3	C 853		CKSRYB472K50
C 325		CKSRYB104K16	C 854		CEAT101M10
C 326		CEJQ220M6R3	C 860		CKSRYB223K50
C 327		CKSRYB104K16	C 861		CEAT101M16
C 328		CKSRYB222K50	C 862		CKSRYB102K50
C 329		CKSRYB222K50	C 871		CKSRYB103K50
C 330		CKSRYB222K50	C 872		CEJQ100M16
C 331		CEJQ220M6R3	C 873		CKSRYB103K50
C 332		CEJQ220M6R3			
C 333		CKSRYB104K16			
C 334		CKSRYB104K16			
C 335		CEJQ220M6R3			
C 336		CEJQNP3R3M25			
C 337		CKSRYB104K16			
C 338		CKSRYB104K16			
C 341		CEJQ3R3M50			
C 342		CEJQ3R3M50			
C 343		CEJQ3R3M50			
C 344		CEJQ3R3M50			
C 348		CKSRYB102K50			
C 351		CEJQ100M16			
C 352		CEJQ100M16			
C 353		CKSRYB102K50			
C 354		CKSRYB102K50			
C 355		CCSRCH221J50			
C 356		CCSRCH221J50			
C 359		CEJQ100M16			
C 360		CEJQ100M16			
C 361		CKSRYB102K50			
C 362		CKSRYB102K50			
C 363		CCSRCH221J50			
C 364		CCSRCH221J50			
C 381		CKSRYB223K50			
C 382		CEAT101M10			
C 389		CKSRYB102K50			
C 451		CKSRYB183K50			
C 452		CKSRYB183K50			
C 601		CKSRYB102K50			
C 602		CEJQ100M16			
C 603		CCSRCH220J50			
C 604		CCSRCH220J50			
C 605		CCSRCH220J50			

**B** Unit Number : CWM8236  
Unit Name : Keyboard Unit

#### MISCELLANEOUS

IC 901	IC	LC75813E
Q 901	Transistor	DTC114EU
Q 902	Transistor	DTC114EU
Q 903	Transistor	DTC114EU
Q 904	Transistor	DTC114EU
Q 905	Transistor	DTC124EU
Q 906	Transistor	DTA114EU
D 911	LED	SML-310PT(KL)
D 912	LED	SML-310PT(KL)
D 913	LED	SML-310PT(KL)
D 914	LED	SML-310PT(KL)
D 915	LED	SML-310PT(KL)
D 916	LED	SML-310PT(KL)
D 917	LED	SML-310PT(KL)
D 918	LED	SML-310PT(KL)
D 919	LED	SML-310PT(KL)
D 920	LED	SML-310PT(KL)
D 921	LED	SML-310PT(KL)
D 922	LED	SML-310PT(KL)
D 923	LED	SML-310PT(KL)
D 924	LED	SML-310PT(KL)
D 925	LED	SML-310PT(KL)
D 926	LED	SML-310PT(KL)
D 927	LED	SML-310PT(KL)
D 928	LED	SML-310PT(KL)
D 929	LED	SML-310PT(KL)
D 930	LED	SML-310PT(KL)
D 931	LED	SML-310PT(KL)
D 932	LED	SML-310PT(KL)
D 933	LED	SML-010PT(KL)

D

E

F

=====Circuit Symbol and No.====Part Name			Part No.	=====Circuit Symbol and No.====Part Name	Part No.
A	D 934	LED	SML-010PT(KL)	R 948	RS1/16S151J
	D 935	LED	SML-010PT(KL)	R 949	RS1/16S101J
	D 936	LED	SML-010PT(KL)	R 950	RS1/16S151J
	D 937	LED	SML-310PT(KL)	R 951	RS1/16S101J
	D 938	LED	SML-310PT(KL)	R 952	RS1/16S101J
	D 939	LED	SML-310PT(KL)	R 953	RS1/16S101J
	D 940	LED	SML-310PT(KL)	R 954	RS1/16S101J
	D 941	LED	SML-310PT(KL)	R 955	RS1/16S101J
	D 942	LED	SML-310PT(KL)	R 956	RS1/16S101J
	D 943	LED	SML-310PT(KL)	R 957	RS1/16S101J
B	D 944	LED	SML-310PT(KL)	R 958	RS1/16S101J
	D 945	LED	SML-310PT(KL)	R 959	RS1/16S101J
	D 946	LED	SML-310PT(KL)	R 960	RS1/16S101J
	D 947	LED	SML-310PT(KL)	R 961	RS1/16S101J
	D 948	LED	SML-310PT(KL)	R 962	RS1/16S101J
	D 949	LED	SML-310PT(KL)	R 971	RS1/16S473J
	D 950	LED	SML-310PT(KL)	CAPACITORS	
	D 951	Diode	DAN202U		
	D 952	Diode	DAN202U		
	D 953	Diode	1SS355		
C	D 954	Diode	1SS355	C 901	CKSRYB102K50
	D 955	Diode	1SS355	C 902	CCSRCH681J50
	D 956	Diode	1SS355	C 903	CKSRYB104K16
	D 961	LED	SML-310PT(KL)	C 904	CKSRYB104K16
	D 962	LED	SML-310PT(KL)	C 905	CKSRYB102K50
	L 901	Inductor	CTF1379	I Unit Number : CWM8263	
	IL 901	Lamp 8V 105mA	CEL1747	Unit Name : Tuner Relay Unit	
	IL 902	Lamp 8V 105mA	CEL1747		
	VR 901	Encoder(VOLUME/POWER)	CSD1073	MISCELLANEOUS	
	LCD 904	LCD	CAW1822		
RESISTORS					
R 901			RS1/16S473J	FM/AM Tuner Unit	2SC2712 LCTA4R7J2520 CTB1112 LCTA1R0J2520 LCTA2R2J2520
R 902			RS1/16S472J		
R 903			RS1/16S472J		
R 904			RS1/16S472J		
R 905			RS1/16S102J		
RESISTORS					
R 906			RS1/16S102J	RESISTORS	RS1/10S222J RS1/16S473J RS1/16S473J RS1/16S681J RS1/16S681J
R 907			RS1/16S102J		
R 908			RS1/16S102J		
R 921			RS1/16S101J		
R 922			RS1/16S151J		
D	R 923		RS1/16S101J	RESISTORS	RS1/16S681J RS1/16S103J RS1/16S681J RS1/16S222J RS1/16S473J
	R 924		RS1/16S151J		
	R 925		RS1/16S101J		
	R 926		RS1/16S151J		
	R 927		RS1/16S101J		
	R 928		RS1/16S151J	RESISTORS	RS1/16S473J RS1/16S472J RS1/16S393J RS1/16S473J RS1/16S681J
	R 929		RS1/16S101J		
	R 930		RS1/16S151J		
	R 931		RS1/16S101J		
	R 932		RS1/16S151J		
E	R 933		RS1/16S101J	CAPACITORS	RS1/16S473J RS1/16S681J RS1/16S473J
	R 934		RS1/16S151J		
	R 935		RS1/16S101J		
	R 936		RS1/16S151J		
	R 937		RS1/16S101J		
	R 938		RS1/16S151J	CAPACITORS	CKSYB103K50 CKSRYB332K50 CKSRYB682K50 CKSRYB103K50 CCSRCH331J50
	R 939		RS1/16S101J		
F	R 940		RS1/16S151J		
	R 941		RS1/16S101J		
	R 942		RS1/16S151J		
	R 943		RS1/16S101J	CAPACITORS	CKSRYB182K50 CKSRYB102K50 CKSRYB103K50 CKSRYB102K50 CKSRYB102K50
	R 944		RS1/16S101J		
	R 945		RS1/16S101J		
	R 946		RS1/16S101J		
	R 947		RS1/16S101J		

=====Circuit Symbol and No.====Part Name			Part No.	=====Circuit Symbol and No.====Part Name	Part No.
C 457			CKSRYB103K50	R 225	RS1/16SS103J
C 458			CEJO220M10	R 226	RS1/16SS393J
C 460			CEJQ101M6R3	R 227	RS1/16SS822J
C 461			CKSRYB473K50	R 229	RS1/16SS103J
C 462			CKSRYB472K50	R 232	RS1/16SS101J
<b>C</b> Unit Number : CWX2713				R 233	RS1/16SS0R0J
Unit Name : Control Unit(G2BM)				R 236	RS1/16SS222J
MISCELLANEOUS				R 237	RS1/16SS104J
IC 201	IC		UPD63760GJ	R 238	RS1/16SS0R0J
IC 203	IC		BA033SFP	R 240	RS1/16SS0R0J
IC 204	IC		MSM51V18165FP-60TS	R 241	RS1/16SS473J
IC 301	IC		BD7962FM	R 242	RS1/16S0R0J
IC 701	IC		PE5335B	R 243	RS1/16SS473J
IC 701	IC			R 301	RS1/16SS123J
IC 702	IC		TC74VHCT08AFT	R 302	RS1/16SS333J
IC 703	IC		S-818A33AUC-BGN	R 303	RS1/16SS123J
Q 101	Transistor		2SB1132	R 304	RS1/16SS223J
Q 601	Transistor		DTC114EU	R 305	RS1/16SS272J
Q 602	Transistor		DTA123JU	R 306	RS1/16SS272J
Q 603	Transistor		DTC314TU	R 307	RS1/16SS182J
Q 604	Transistor		DTC314TU	R 308	RS1/16SS272J
Q 701	Transistor		UMD3N	R 309	RS1/16SS682J
D 101	Diode		1SS355	R 310	RS1/16SS822J
D 201	Diode		S1G-6904G2P	R 311	RS1/16SS103J
D 202	Diode		S1G-6904G2P	R 313	RS1/16SS103J
D 203	Diode		S1G-6904G2P	R 315	RS1/16SS333J
D 204	Diode		S1G-6904G2P	R 316	RS1/16SS393J
D 601	Chip Diode		MA151WA	R 317	RS1/16SS103J
L 201	Inductor		CTF1386	R 318	RS1/16SS103J
L 202	Inductor		CTF1386	R 319	RS1/16SS102J
L 204	Inductor		CTF1386	R 320	RS1/16SS392J
L 601	Inductor		CTF1295	R 321	RS1/16SS153J
L 701	Inductor		CTF1546	R 322	RS1/16SS103J
TH 701	Thermistor		CCX1015	R 323	RS1/16SS103J
X 201	Ceramic Resonator 16.930MHz		CSS1569	R 324	RS1/16SS103J
X 701	Ceramic Resonator 16MHz		CSS1576	R 325	RS1/16SS103J
EF 201			CCG1051	R 326	RS1/16SS0R0J
RESISTORS				R 327	RS1/16SS0R0J
R 101			RS1/10S1R5J	R 328	RS1/16SS0R0J
R 102			RS1/10S1R5J	R 601	RS1/16S101J
R 103			RS1/10S1R5J	R 602	RS1/16S101J
R 104			RS1/10S1R5J	R 603	RS1/16S223J
R 105			RS1/10S1R5J	R 604	RS1/16S223J
R 105				R 605	RS1/16S0R0J
R 109			RS1/16SS0R0J	R 701	RS1/16SS473J
R 111			RS1/16S102J	R 702	RAB4CQ222J
R 201			RS1/16S102J	R 703	RS1/16SS222J
R 202			RS1/16SS333J	R 706	RS1/16SS222J
R 203			RS1/16S333J	R 707	RS1/16SS0R0J
R 204			RS1/16SS333J	R 708	RS1/16SS102J
R 205			RS1/16S0R0J	R 709	RS1/16SS102J
R 206			RS1/16S0R0J	R 710	RS1/16S102J
R 207			RS1/16S0R0J	R 711	RS1/16SS102J
R 209			RS1/16S0R0J	R 712	RS1/16SS222J
R 210			RS1/16S0R0J	R 713	RS1/16SS473J
R 211			RS1/16S0R0J	R 714	RS1/16SS473J
R 212			RS1/16S0R0J	R 715	RAB4CQ221J
R 213			RS1/16S1002D	R 716	RAB4CQ221J
R 214			RS1/16S1002D	R 717	RAB4CQ221J
R 215			RS1/16SS1002D	R 718	RAB4CQ221J
R 216			RS1/16SS1002D	R 720	RS1/16SS221J
R 217			RS1/16S1002D	R 724	RS1/16SS333J
R 218			RS1/16SS1002D	R 726	RS1/16SS103J
R 219			RS1/16SS1002D	R 727	RS1/16SS473J
R 220			RS1/16SS1002D	R 728	RS1/16SS473J
R 221			RS1/16SS103J	R 729	RS1/16SS223J
R 222			RS1/16SS103J	R 730	RS1/16SS473J
R 223			RS1/16SS103J	R 731	RS1/16SS104J
R 224			RS1/16SS103J	R 732	RS1/16SS104J

=====Circuit Symbol and No.=====Part Name		Part No.	=====Circuit Symbol and No.=====Part Name	Part No.
A	R 733	RAB4CQ104J	C 235	CKSRYB224K16
	R 734	RS1/16SS472J	C 237	CKSSYB104K10
	R 735	RS1/16SS473J	C 238	CKSSYB104K10
	R 738	RS1/16SS222J	C 239	CCSSCH150J50
	R 740	RS1/16SS473J	C 301	CEV101M10
	R 741	RS1/16SS473J	C 308	CKSSYB104K10
	R 742	RS1/16SS473J	C 309	CKSYB475K16
	R 743	RS1/16SS473J	C 311	CCSSCH181J25
	R 744	RS1/16SS221J	C 312	CKSSYB271K50
	R 746	RS1/16SS104J	C 313	CKSSYB472K25
B	R 747	RS1/16SS104J	C 314	CKSSYB272K50
	R 748	RS1/16SS222J	C 601	CEV220M6R3
	R 750	RS1/16SS222J	C 602	CEV220M6R3
	R 751	RS1/16SS104J	C 701	CKSSYB104K10
	R 752	RS1/16SS104J	C 702	CKSSYB471K50
	R 753	RS1/16SS154J	C 703	CKSSYB103K16
	R 755	RS1/16SS473J	C 704	CEV10M50
	R 756	RS1/16SS104J	C 705	CKSSYB104K10
	R 757	RS1/16SS473J	C 707	CKSSYB104K10
	R 758	RS1/16SS473J	C 708	CKSSYB104K10
C	R 759	RS1/16SS0R0J	C 709	CKSSYB103K16
	R 760	RS1/16SS473J	C 710	CKSSYB104K10
	R 761	RS1/16S0R0J	C 711	47μF/6.3V
	R 762	RS1/16SS104J	C 712	CCH1436
	R 764	RS1/16SS473J	C 713	CKSRYB224K16
D	R 765	RS1/16SS473J	C 714	CKSSYB104K10
	R 766	RS1/16SS473J	C 715	CKSSYB473K10
	R 901	RS1/16SS221J	C 716	CKSSYB103K16
	R 902	RS1/16SS221J	C 719	CKSSYB103K16
	R 903	RS1/16SS221J	C 720	CKSSYB104K10
	R 904	RS1/16SS221J	C 722	CCSRCH102J50
	R 905	RS1/16SS221J	C 723	CCSRCH102J50
	R 906	RS1/16SS221J		
	R 907	RS1/16SS221J		
	CAPACITORS			
E	C 101	CKSSYB104K10	Q 21	Photo-transistor
	C 102	CKSSYB104K10	Q 22	Photo-transistor
	C 103	CEV101M16	L 21	Inductor
	C 104	CEV101M4	L 22	Inductor
	C 105	CKSSYB104K10	S 21	Switch(LOAD1)
F	C 106	CKSSYB102K50	S 22	Spring Switch(LOAD2)
	C 108	CKSSYB104K10		
	C 109	CEV100M16		
	C 201	CKSSYB471K50		
	C 202	CKSSYB104K10		
	C 203	CKSSYB104K10	D 31	Chip LED
	C 204	CEV220M6R3	D 32	Chip LED
	C 205	CKSSYB103K16	S 31	Spring Switch(CAMLOAD)
	C 206	CKSSYB103K16	S 32	Spring Switch(CAMEOK)
	C 207	CEV221M4	R 31	RS1/16S0R0J
G	C 208	CKSSYB104K10		
	C 209	CKSSYB104K10		
	C 210	CKSSYB104K10		
	C 211	CKSSYB104K10		
	C 216	CKSSYB182K50	L 1	Inductor
H	C 217	CKSSYB104K10	S 41	Switch(LOAD3)
	C 218	CKSSYB473K10		
	C 219	CKSSYB104K10		
	C 220	CKSRYB152K50		
	C 221	CKSSYB104K10		
I	C 223	CCSSCK2R0C50	S 11	Spring Switch(CAMCLMP)
	C 224	CKSSYB104K10	VR 11	Semi-fixed 1kΩ(B)
	C 225	CKSSYB103K16		
	C 226	CCSSCH680J50		
	C 227	CCSSCH470J50	R 11	
	C 228	CKSSYB682K25	R 12	RS1/16S562J
	C 230	CKSSYB104K10	R 13	RS1/16S562J
	C 232	CKSSYB104K10	R 14	RS1/10S391J
	C 233	CCH1436	R 15	RS1/10S391J
	C 234	CEV221M4	R 16	RS1/16S0R0J
47μF/6.3V				

=====Circuit Symbol and No.====Part Name      Part No.

## CAPACITORS

C 12 CKSRYB104K25

A

**H** Unit Number : CWX2760  
Unit Name : PCB Unit

## MISCELLANEOUS

IC	1	IC	BA6849FS
S	1	Switch(HOME)	CSN1057
S	2	Switch(CLAMP)	CSN1057

## RESISTORS

R	1	RS1/16S221J
R	2	RS1/16S221J
R	3	RS1/10SR47J

B

## CAPACITORS

C 1 CKSRYB104K16

## Miscellaneous Parts List

M	1	Motor Unit(CAMGEAR)	CXC1144
M	2	Motor Unit(ELEVATION)	CXC1145
M	3	Motor Unit(-A)(CRG)	CXC1143
VR	1	Variable Resistor 10kΩ	CCW1023
		PU Unit(PX1MP3)(Service)	CXX1600

C

D

E

5

## 6. ADJUSTMENT

### 6.1 TEST MODE

A

[4] + [6]
Internal CD-CH
Error number displayed
CD ERRXX

B

[CD]
CD On
CD *
(*: Disc number)

To the CD Test Mode

C

Notes:

\*1) Note that the test mode is cancelled in the system microcomputer by switching the ACC OFF and ON, but that it is not in the CD microcomputer.  
Use the reset function for complete cancellation of the test mode.

D

E

F

## 6.2 CD ADJUSTMENT

### 1) Precautions on Adjustment

- The unit employs a single voltage (+5V) for the regulator, thus the reference potential of the signal is REFO (approximately 2.5V) rather than GND. Inadvertent contact of REFO and GND during adjustment can result not only in disabling normal potential measurement but also in exposing the pickup to strong impacts due to malfunctioning of the servo. Therefore, you are requested to observe the following precautions.
- Make sure that the negative probe of the measuring instrument is not connected to REFO or GND. Special care must be exercised so that the channel 1 negative probe may not be connected to the oscilloscope and the channel 2 negative probe to GND. Since the frame of the measuring instrument is usually at the same potential as the negative probe, the frame of the measuring instrument must be changed to floating status.

When REFO is inadvertently connected to GND, you must immediately turn off the regulator or power supply.

- The regulator must be turned off before mounting or dismounting filters or wiring materials.
- You should not start adjustment or measurement immediately after the regulator is turned on. It is recommended to run the player for approximately one minute so that it may stabilize.
- When the test mode is turned on, various protective functions from the software become unavailable. Thus, you must make sure that undesirable electric or mechanical shocks are not be given to the system.
- This model employs a photo-transistor for detecting discs at their loading or ejection. Thus, if its outer case is removed during repair work and internal parts are exposed to light of strong intensity, malfunctions including the following can result:

\* The eject button becomes inoperable during play.  
Pressing the eject button does not eject a disc and play is continued.

\* Loading becomes unavailable.

If a malfunction is recognized, appropriate remedial actions must be taken. Such actions include changing the light source position, changing the unit position and applying a cover to the photo-transistor.

- When you press the EJECT key to eject a disc, you must not touch any other key until the ejection is complete.
- If you press the UP or DOWN for the focus search in the test mode, you must turn the power off immediately. (Otherwise, the lens will be forced to stick to the top or bottom, potentially resulting in the burning of the actuator.)

### 2) Description of the Test Mode

- Turning on the Test Mode  
See page 60.
- Ending the Test Mode  
Apply the reset (the reset will be applied two minutes after the power is turned from off).
- Operation of TR JUMPs (except 100TR) continues after your finger has left the key. CRG, MOVE and 100TR JUMP are forced to the tracking close mode as soon as the key is released.
- Turning the power on or off resets the JUMP MODE to the Single TR.

A

B

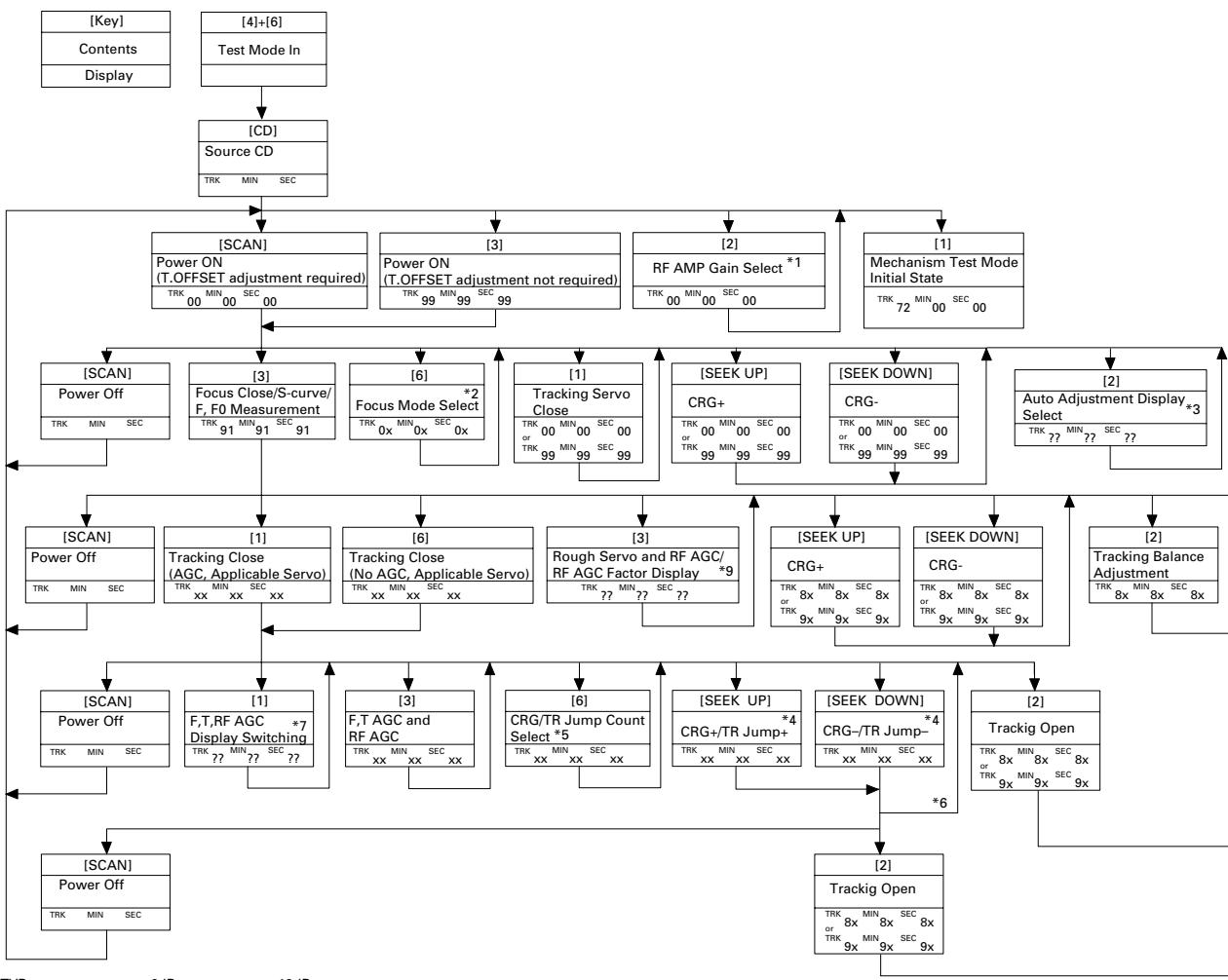
C

D

E

F

## A ● Flow Chart



\*1) TYP → -6dB → -12dB  
 TRK MIN SEC → TRK 06 MIN 06 SEC 06 → TRK 12 MIN 12 SEC 12

\*2) Focus Close → S.Curve Check → LD Off  
 TRK 00 MIN 00 SEC 00 → TRK 01 MIN 01 SEC 01 → TRK 02 MIN 02 SEC 02  
 (TRK 99 MIN 99 SEC 99)

\*3) F.Offset Display → RF Offset Display → T.Bal Display → Rough Servo.

( F.Cancel value  
 = (Upper 8 bits of the setting (7F[H] to 80[H] + 128)/4  
 = 63[D] to 32[D] to 00[D]).

\*4) Single TR /4TR / 10TR / 32TR / 100TR

\*5) Single TR → 4 TR → 10 TR → 32 TR → 100 TR → CRG Move  
 9X(8X):91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

\*6) Only for the CRG Move and 100TR modes

\*7) Track No. / Min / Sec → F.AGC Gain → T.AGC Gain → RF AGC Gain  
 (F.T. AGC Gain = (Current value/Initial value) x 20)

\*8) CRG motor voltage : 2 [ V ]

\*9) The first press displays the RF AGC coefficient. The second one or after performs the rough servo and RF AGC adjustments, and then displays the RF AGC coefficient.

- In all TR Jump modes except for 100TR, track jump operation continues even after the key is released.
- In the CRG Move and 100TR Jump modes, the tracking servo loop closes at the same time when the key is released.
- When the power is turned off and on, the jump mode, the RF AMP gain setting, and the auto adjustment values are reset to the Single TR (91), 0dB, and the factory setting respectively.

Note: When you pressed the [SEEK UP] or [SEEK DOWN] key during the Focus Search, you must turn the power off immediately (otherwise, the lens can stick resulting in actuator damages).

[Key]	Operation
	Test Mode
[SCAN]	Power ON/OFF
[SEEK UP]	CRG+/TR Jump+ (Toward outer perimeter)
[SEEK DOWN]	CRG-/TR Jump- (Toward inner perimeter)
[1]	Tracking close and AGC and Applicable servo / AGC , AGC display switching
[2]	RF gain select / Offset adjustment display/ Tracking balance adjustment / Tracking open
[3]	Focus Close, S.Curve / Rough Servo/ RF AGC / F,T, RF AGC
[6]	Focus mode select / Tracking close / CRG-TR jump select
[4]	Focus open
[5]	Jump off
[DISC UP]	DISC UP
[DISC DOWN]	DISC DOWN

## 6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT



### • Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

### • Purpose :

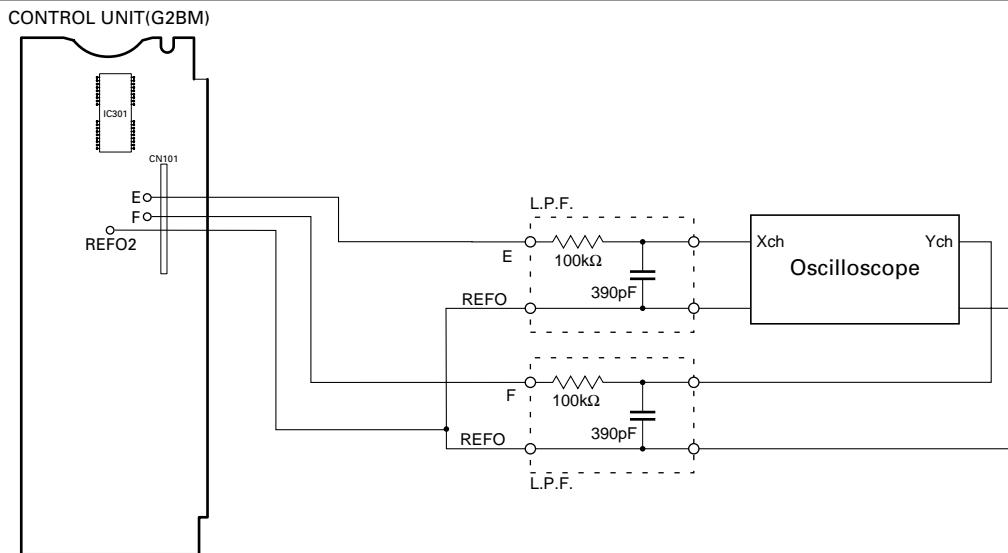
To check that the grating is within an acceptable range when the PU unit is changed.

### • Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

### • Method :

- Measuring Equipment      • Oscilloscope, Two L.P.F.
- Measuring Points      • E, F, REFO
- Disc      • ABEX TCD-784
- Mode      • TEST MODE



### • Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the **SEEK UP** and **SEEK DOWN** buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

### • Note

Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

### • Hint

Reloading the disc changes the clamp position and may decrease the "wobble".

A

B

C

D

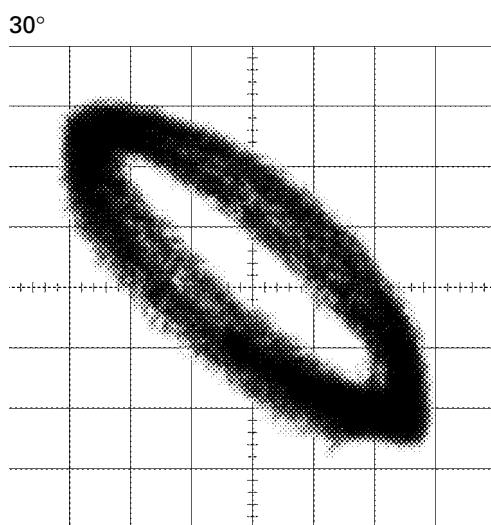
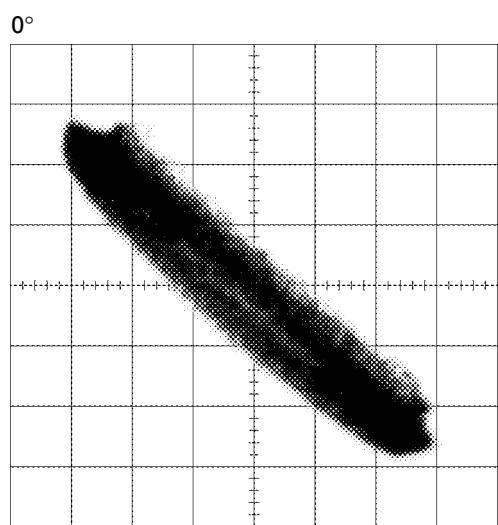
E

F

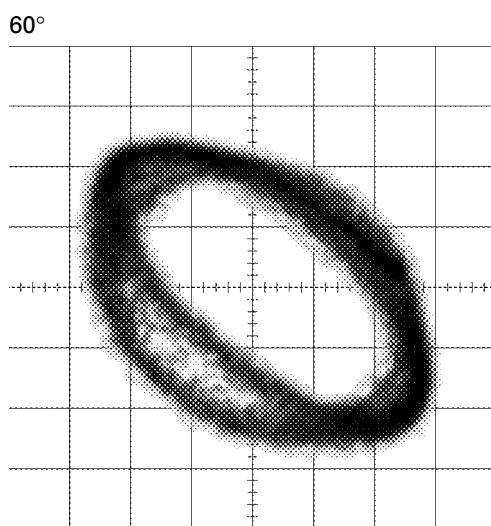
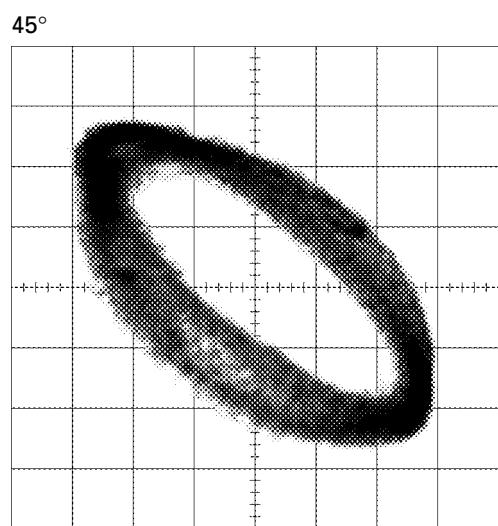
A

**Grating waveform**

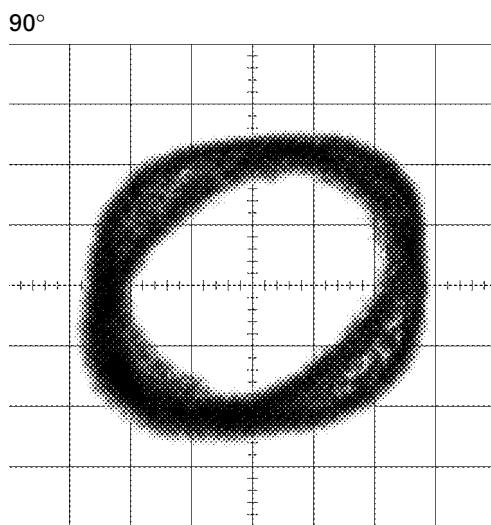
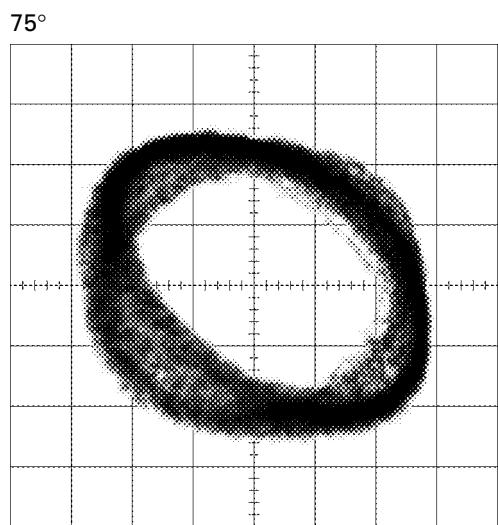
Ech → Xch 20mV/div, AC  
Fch → Ych 20mV/div, AC



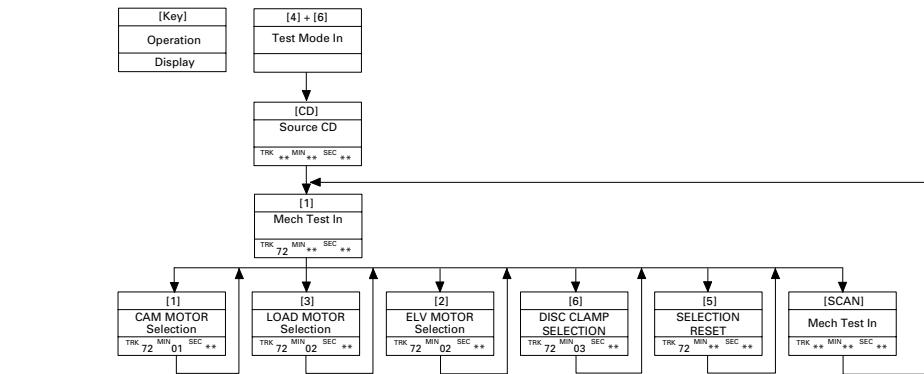
B



C



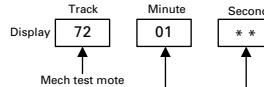
## 6.4 TEST MODE(CD)



### Manual test

Select the motor you desire to move by using one of the following four keys: 1, 2, 3, and 6.

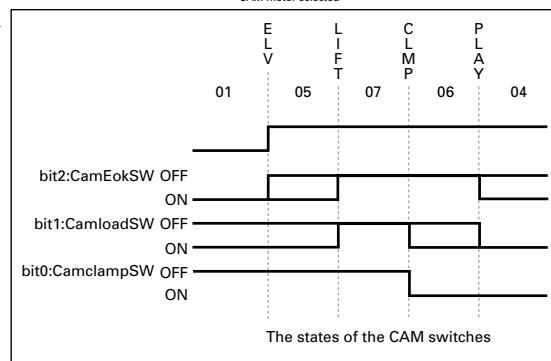
After selecting the motor, use the SEEK UP or SEEK DOWN key to move the selected motor. While the key is being pressed, the motor will keep moving.



1. To select the CAM motor, press the 1 key.

For the CAM PLAY direction, use the TUNE UP key.

For the CAM ELV direction, use the TUNE DOWN key.

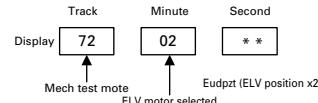


Key	Operation
SCAN	To the mech test initial state
SEEK UP	Moves the motor selected by one of the keys 1, 2, 5 and 6, in the FWD direction. The motor keeps moving while the key is pressed.
SEEK DOWN	Moves the motor selected by one of the keys 1, 2, 5 and 6, in the REV direction. The motor keeps moving while the key is pressed.
1	Selects the CAM motor.
2	Selects the ELV motor.
3	Selects the LOAD motor.
6	Selects the DISC CLAMP.
5	Selection reset.

2. To select the ELV motor, press the 2 key.

For the ELV UP direction, use the SEEK UP key.

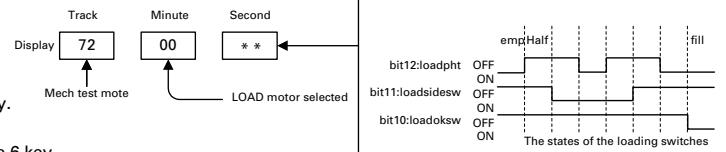
For the ELV DOWN direction, use the SEEK DOWN key.



3. To select the LOAD motor, press the 3 key. (Default)

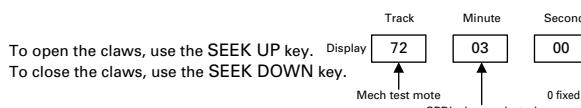
For loading, use the SEEK UP key.

For ejection, use the SEEK DOWN key.



4. To select the SPDL claws, press the 6 key.

Caution: SPDL claw test should be performed in the servo test mode. The SPDL claws are controlled by the servo systems and the switches conditions cannot be checked in the mechanical test mode.



### Durability test

To enter the durability test mode, press the 5 key.

To exit from the test modes, press one of the keys 1, 2, 3, and 6.

1. LOAD durability test (Load <-> Eject)

At the door open position (disc insertion/eject position), insert a disc and press the 5 key.

2. CAM durability test (Play <-> ELVOK)

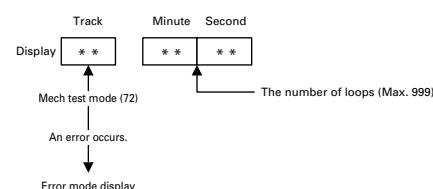
At any position between CAM4P and CAM5P (display: 06, 04), press the 5 key.

3. LIFT durability test (Current disc <-> Door Open)

At any position between CAM2P and CAM3P (display: 05, 07), press the 5 key.

4. ELV durability test (ELV1F <-> 6F)

At the CAM1P position (display: 01), press the 5 key.



A

### ● Electrical and servo errors

Mode	Digit	Code	Name	Descriptions
Electrical error	1,2	0xA0	VD power NG	VD power abnormal
	1,2	0xA1	Mech Vref NG	Mech elevation reference voltage abnormal
	3,4			At the occurrence of error, motor control output (*6)
Servo error	1,2	0x10	Setup carriage home NG	The CRG cannot move to inner tracks or move from inner tracks.
	1,2	0x11	Setup focus NG	No focus
	1,2	0x12	Setup spindle Lock NG /RF NG	No spindle lock. Sub codes cannot be read.
	1,2	0x17	Setup AGC NG	AGC protection does not function. Focus is easily unlocked.
	1,2	0x22	Setup Impossible to play (ROM)	No playable MP3 file or WMA file. →No MP3 file or WMA file in the set CD-ROM
	1,2	0x23	Setup file format NG	Being written in non-corresponding File Format
	1,2	0x30	SRH time-out during SRH (including TRD L.I search time-out)	Cannot reach the target address.
	1,2	0x44	Setup Impossible to play (CD-DA)	No playable TRK No. →ALL of the TRK No. in the set disc has been specified with track skip information.
	3			At the occurrence of error, claw switch value
	4			The rotation rate does not satisfy the spec.

B

### ● Mechanical errors

Mode	Digit	Code	Name	Descriptions
Waiting for disc pulled out	1,2	0x00		CAMRST→Forced ejection→Waiting for disc pulled out
	1,2	0x01		WTLOAD→Forced ejection→Waiting for disc pulled out
	1,2	0x02		EJCTON→Forced ejection→Waiting for disc pulled out
	1,2	0x03		SEJPCK→Forced ejection→Waiting for disc pulled out
	1,2	0x04		HLFLOAD→Forced ejection→Waiting for disc pulled out
	1,2	0x05		DINSRDY→Forced ejection→Waiting for disc pulled out
	1,2	0x06		LIFTDN→LIFTUP→Forced ejection→Waiting for disc pulled out
	3			The m2stat value at the original error followed by forced ejection (*3)
	4			The LOAD SW value (3 bits) at the forced ejection end:
CAM Err	1,2	0x51	MFWDTO	CAM motor FWD time-out error during TRAY UP operation
	1,2	0x52	MREVTO	CAM motor REV time-out error during TRAY UP operation
	1,2	0x5a	MFWDTO	CAM motor FWD time-out error during TRAY DN operation
	1,2	0x5b	MREVTO	CAM motor REV time-out error during TRAY DN operation
	1,2	0x5e	MFWD2TO	CAM motor FWD2 time-out error during TRAY DN operation
	1,2	0x61	MFWDTO	CAM motor FWD time-out error during CRG OUT operation
	1,2	0x62	MREVTO	CAM motor REV time-out error during CRG OUT operation
	1,2	0x64	MLSWNG	LOAD SW ON stuck error during CRG OUT operation
	1,2	0x66	MREV2TO	CAM motor REV2 time-out error during CRG OUT operation
	1,2	0x6a	MFWDTO	CAM motor FWD time-out error during CRG IN operation
	1,2	0x6b	MREVTO	CAM motor REV time-out error during CRG IN operation
	1,2	0x71	MFWDTO	CAM motor FWD time-out error during ELV IN operation
	1,2	0x72	MREVTO	CAM motor REV time-out error during ELV IN operation
	1,2	0x7a	MFWDTO	CAM motor FWD time-out error during ELV OUT operation
	1,2	0x7b	MREVTO	CAM motor REV time-out error during ELV OUT operation
E	1,2	0x7d	MLSWNG	LOAD SW ON stuck error during ELV OUT operation
	1,2	0x7f	MREV2TO	CAM motor REV2 time-out error during ELV OUT operation
	1,2	0x81	MFWDTO	CAM motor FWD time-out error during EIN_EXP operation
	1,2	0x82	MREVTO	CAM motor REV time-out error during EIN_EXP operation
	1,2	0x8a	MFWDTO	CAM motor FWD time-out error during CIN_EXP operation
	1,2	0x8b	MREVTO	CAM motor REV time-out error during CIN_EXP operation
	1,2	0xaa	MOVERCNT	CAM SW has not been determined during CAM operation (Chatter remains.)
	3			The OK stop position at the last elevation operation (*4)
	4			The CAM SW value (3 bits) before retry (with the first error)
CAMRST Err	1,2	0x91	MFWDTO	ELV motor FWD time-out error during CAMRST operation
	1,2	0x92	MREVTO	ELV motor REV time-out error during CAMRST operation
	1,2	0x93	MOVERCNT	Over-count error during CAMRST operation
	1,2	0x94	MSPDERR	The claws do not close during CAMRST operation.

F

Mode	Digit	Code	Name	Descriptions
	1,2	0x96	MREV2TO	Overrun error during CAMRST operation
	3			The CAM SW value (3 bits) before operation
	4			The ELV stop position before operation (*5)
Claw Err	1,2	0x9a	MSPDERR	The claws do not close during DSKFREE operation.
	1,2	0x9b	MSPDERR	The claws do not open during DSKLOCK operation.
	1,2	0x9c	MSPDERR	The claws do not close during CLWCLSE operation.
	1,2	0x9d	MSPDERR	The claws do not open during CLWOPEN operation.
	3			The CAM SW value (3 bits) with the claw error
	4			The CLAW SW values before and after the error stop (2 bits each)
DISCSEL Err	1,2	0xb1	MFWDTO	ELV motor FWD time-out error during DISCSEL operation
	1,2	0xb2	MREVTO	ELV motor REV time-out error during DISCSEL operation
	1,2	0xb3	MOVERCNT	Over-count error during DISCSEL operation
	1,2	0xb6	MREV2TO	Overrun error during DISCSEL DISC operation
	3			The target disc No.
	4			The ELV error stop position before retry (*5)
LIFT Err (*2)	1,2	0xc1	MFWDTO	ELV motor FWD time-out error during LIFT UP operation
	1,2	0xc2	MREVTO	ELV motor REV time-out error during LIFT UP operation
	1,2	0xc3	MOVERCNT	Over-count error during LIFT UP operation
	1,2	0xc6	MREV2TO	Overrun error during LIFT UP operation
	1,2	0xd1	MFWDTO	ELV motor FWD time-out error during LIFT DN operation
	1,2	0xd2	MREVTO	ELV motor REV time-out error during LIFT DN operation
	1,2	0xd3	MOVERCNT	Over-count error during LIFT DN operation
	1,2	0xd4	MLSWNG	DISC IN (SIDE SW ON) is sensed during door close operation.
	1,2	0xd6	MREV2TO	Overrun error during LIFT DN operation
	1,2	0xd7	MLSW2NG	"Pinched disc" is sensed during LIFT DN operation (within the range of +/-1LSB, 200ms continued)
	3			Current disc No.
	4			The ELV error stop position before retry (*5)
Insertion/ ejection err(*1)	1,2	0x90	BACKUP_NG	CAMRST→Forced ejection→Door open/close error
	1,2	0xeb	MLSWNG	LOAD SW error during HLFLOAD operation
	1,2	0xed	MLSWNG	LOAD SW error during SEJPCK operation
	1,2	0xfb	MLSWNG	LOAD SW error during DINSRDY operation
	1,2	0xe0	BACKUP_NG	Backup NG during EJCTON operation
	1,2	0xe2	MREVTO	MREVTO error during EJCTON operation
	1,2	0xe6	MREV2TO	MREV2TO error during EJCTON operation
	1,2	0xf0	BACKUP_NG	Backup NG during WTLOAD operation
	1,2	0xf1	MFWDTO	MFWDTO time-out error during WTLOAD operation
	1,2	0xf2	MREVTO	SIDE SW ON with OK SW ON waiting retry during WTLOAD operation
	1,2	0xf3	MCHTERR	Incomplete insertion error during WTLOAD operation
	1,2	0xf4	MLSWNG	OK SW ON but PHOTO ON during WTLOAD operation
	1,2	0xf5	MFWD2TO	MFWD2TO time-out error during WTLOAD operation
	1,2	0xf6	MREV2TO	OK SW ON waiting retry (3 times) during WTLOAD operation
	1,2	0xf7	MLSW2NG	SIDE SW ON at the OK SW ON waiting mode during WTLOAD operation
	1,2	0xab	MOVERCNT	The LOAD SW has not been determined during insertion/loading operation (Chatter remains.)
	3			The LOAD SW value (3 bits) at the FEJCHK end
	4			The ELV stop position at the FEJCHK end (*5)
New test mode	1,2	0x40	New test mode	Focus NG after servo close
	1,2	0x41	New test mode	Lock NG after servo close
	1,2	0x42	New test mode	Sub code NG after servo close
	1,2	0x43	New test mode	Not applicable to the G2 mechanism.
	3			The claw SW value at the occurrence of error
	4			The rotation rate does not satisfy the spec.

A

B

C

D

E

F

A

Notes:

\*1) Insertion/ejection error is output only when door open/close error occurs with forced eject.

\*2) LIFT error is output under the following conditions:

LIFTDN --> TLFTUP --> forced eject --> door open/close error

\*3) The values of m2stat:

B.upNg=0, FwdTo=1, RevTo=2, Chata=3, OverCnt=4, SwNg=5, SpdNg=6,  
Fwd2To=7, Rev2To=8, Sw2Ng=9

\*4) The last results of chatter check (compared with the target center):

+8LSB=1, +7LSB=2, +6LSB=3, +5LSB=4, +4LSB=5, +3LSB=6, +2LSB=7,  
+1/0LSB=8, -1/0LSB=8, -2LSB=9, -3LSB=a, -4LSB=b, -5LSB=c, -6LSB=d, -7LSB=e, -8LSB=f,  
the others=0

\*5) Basically the value of eudpzt except for the following case:

In case of eudpzt=1 and door close mode, eudpzt=e

\*6) bit0: P\_lo1, bit1: P\_lo2, bit2: P\_elv1, bit3: P\_elv2, bit4: P\_cg1, bit5: P\_cg2,  
bit6: P\_elv\_vol, bit7: P\_lod\_vol

C Claw: It's the part that looks like a claw. It's used to clamp a disc.

CAMRST: Mechanical initialization motion just after resetting

WTLOAD: Loading motion

EJCTON: Ejection motion

SEJPCK: Mechanical motion to check that there is no disc around the loading slot

HLFLOAD: Half loading

DINSRDY: Waiting for disc insertion

LIFTDN: Preparatory motion to clamp a disc after loading

LIFTUP: Preparatory motion to eject a disc

TRAYUP: CAM motor rotation to release the clamped disc from the position where the disc can be rotated

TRYDN: CAM motor rotation to reach the position where the disc can be rotated

CRGOUT: Carriage evacuating motion outside the disc to get ready for elevation motion

D CRGIN: Carriage inserting motion inside the disc to get ready for clamping the disc

ELVIN: CAM motor rotation to reach the position where elevation motion can be carried out

ELVOUT: CAM motor rotation to reach the position where disc insertion/ejection can be carried out

EIN\_EXP: CAM motor rotation to reach the position where elevation motion can be carried out

CIN\_EXP: CAM motor rotation to reach the position where claw's opening/closing motion

DSKFREE: Claw's closing motion to release the clamped disc

DSKLOCK: Claw's opening motion to clamp a disc

CLWCLSE: Claw's closing motion

CLWOPEN: Claw's opening motion

DISCSEL: Elevation motion

FEJCHK: Mechanical motion to check that there is no disc around the loading slot



## 6.5 SYSTEM MICROCOMPUTER TEST PROGRAM

### ● PCL output

In the normal operation mode (the ACC switched ON, the standby mode cancelled), shift the TESTIN terminal to H.

The clock signal is output from the CLKOUT terminal (Pin 39). The frequency of the clock signal is 32.768kHz.

F

## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 DISASSEMBLY

##### ● Removing the Grille Assy (Fig.1)

- 1 Release the latch.
- 2 Release the latch.
- 3 Release the latch.
- 4 Release the latch.
- 5 Release the latch.
- 6 Release the latch and then remove the Grille Assy.

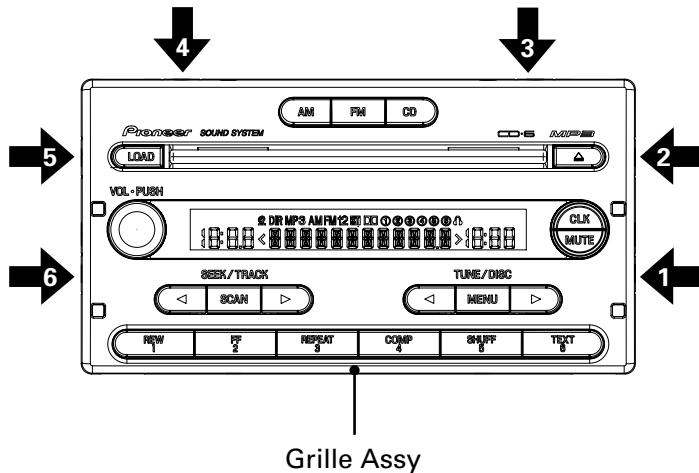


Fig.1

##### ● Removing the Frame (Fig.2)

- 1 Remove the four screws and then remove the Frame.

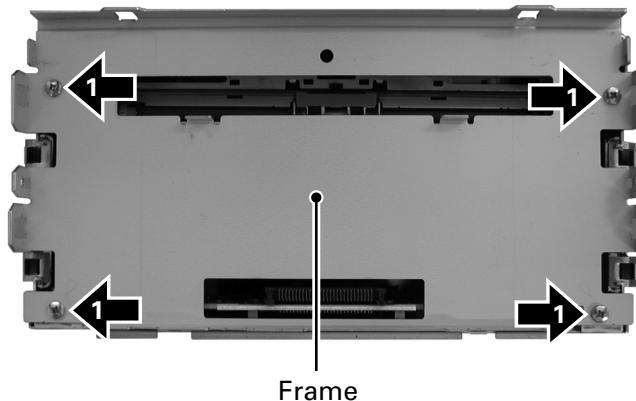


Fig.2

A

### ● Removing the Chassis Unit (Fig.3)

1 Remove the four screw.

Disconnect the connector and then remove the Chassis Unit.

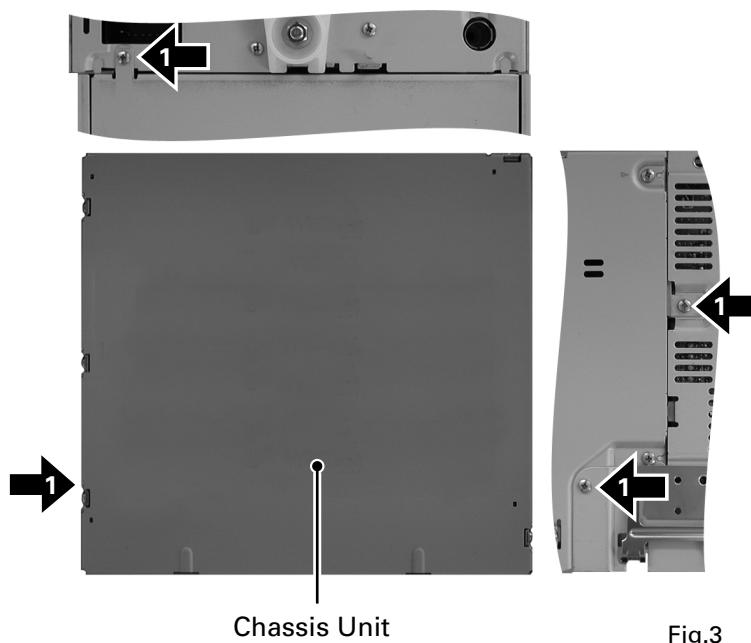


Fig.3

B

### ● Removing the Mother Unit (Fig.4)

1 Remove the three screws.

2 Straighten the tabs at three locations indicated.

3 Remove the two screws and then remove the Mother Unit.

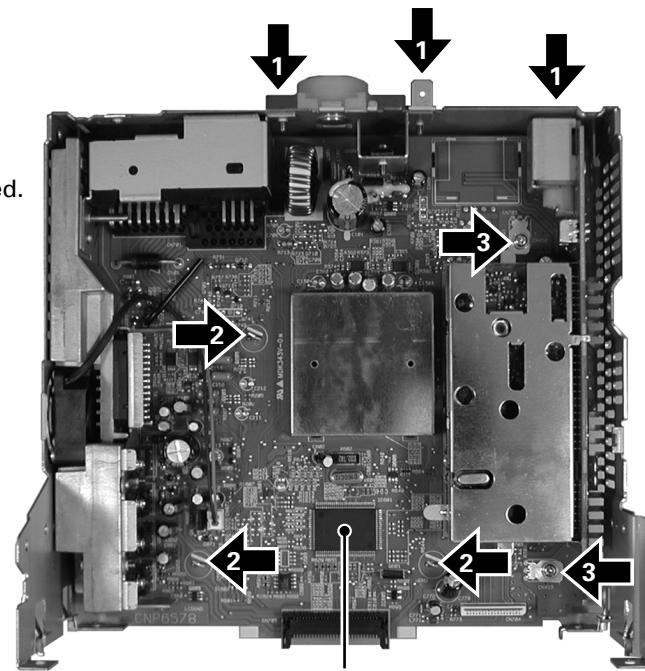


Fig.4

F

### ● Removing the Case(Not shown)

1. Remove the eight screws and then remove the Case.

### ● Removing the Control Unit(G2BM) (Fig.4)

1. Remove the two screws and then remove the Holder.
2. Apply shorting solder to the PU flexible cable before disconnecting it from the connector.
3. Disconnect the two connectors.
4. Remove the two screws B.
5. Remove the Control Unit(G2BM).

### ● Removing the Service Mechanism Unit(G2BM) (Fig.4)

1. Remove the two springs A and two springs B.
2. Remove the two screws C and then remove the Bracket.
3. Remove the four Dampers and then remove the Service Mechanism Unit(G2BM).

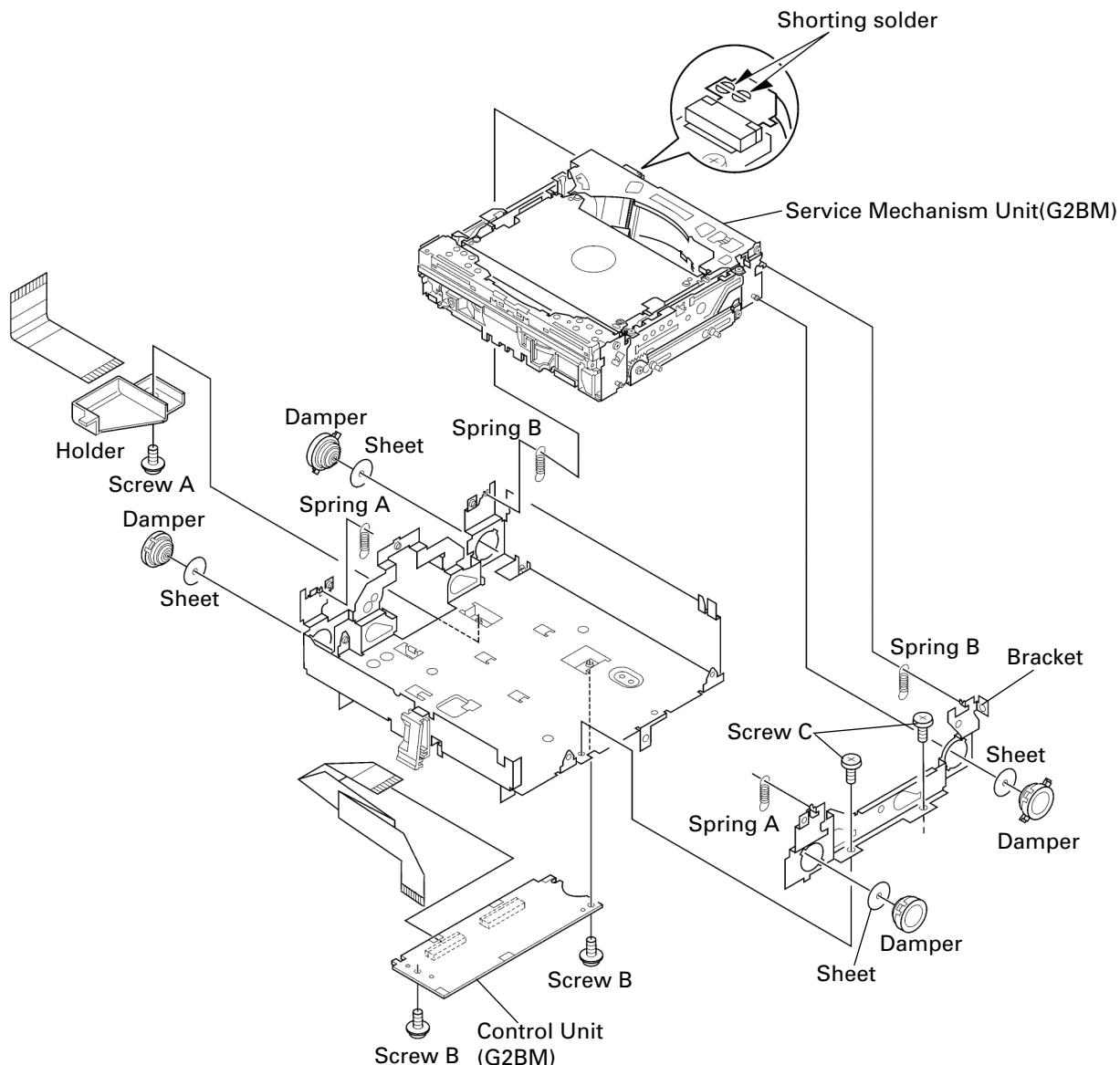


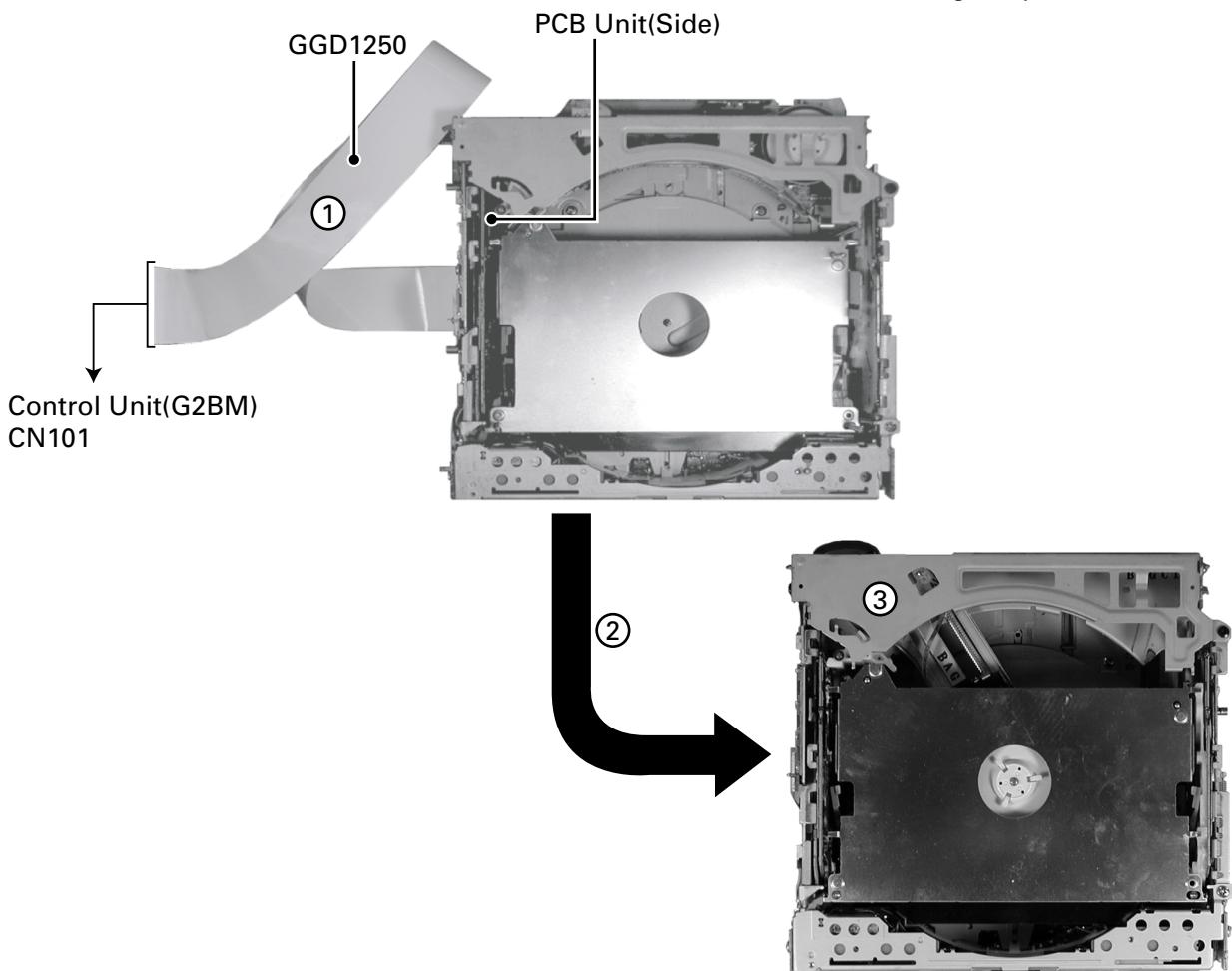
Fig.5

### ● Cautions on replacing the CD mechanism unit

The CD mechanism units available as service parts have been set in the shipment mode at the factory. Before mounting it on the product to be serviced, be sure to apply the power to a CD mechanism to put it into the initial mode, where the carriage mech assy stays at the disc clamp position, in accordance with the following method:

<Initial mode setting method>

1. Keep a CD mechanism unit out of the product to be serviced as shown below. Connect the 50-pin connector of the control unit (G2TMP3) in the product and the 50-pin connector of the PCB unit (Side) in the CD mechanism by using the extension cable (GGD1250).
2. Apply the power (+14V) to the product to move the CD mechanism until it enters the initial mode and stops. (Operating time: about 30 seconds)
3. When it is confirmed that the CD mechanism stops in the initial mode, the setting completes.



### ● Removing the PU Unit(PX1MP)

1. Set the mechanism to the shipment mode.
2. Remove the two screws A and two screws B.
3. Remove the Frame.

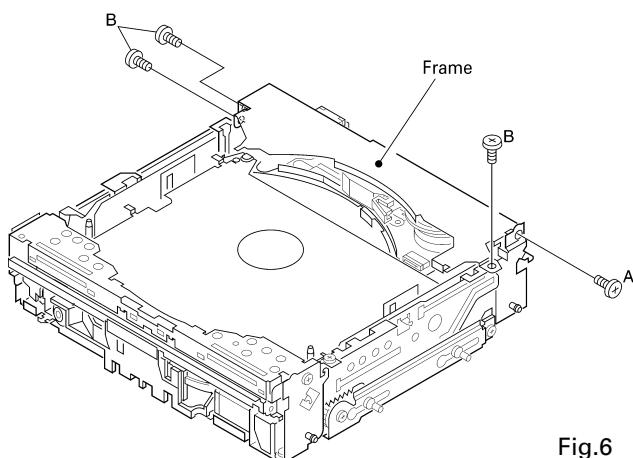


Fig.6

4. Apply shorting solder to the PU flexible cable before disconnecting it from the connector CN12.
5. Disconnect the flexible cable from the connector CN12, and remove the flexible cable Holder.
6. Remove the washer and Arm. (Be careful not to lose the spring B.)
7. Remove the screw, spring A, and Collar.
8. Remove the Carriage Mech. Assy.

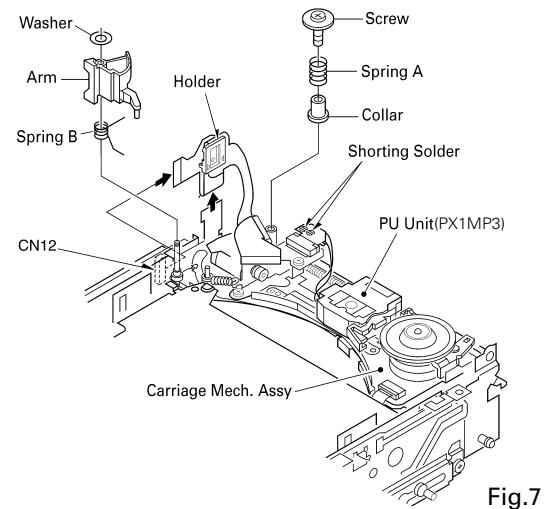


Fig.7

9. Apply shorting solder to the PU flexible cable before disconnecting it from the Connector.
10. Disconnect the PU flexible cable from the Connector.
11. Move the PU Unit(PX1MP) to the left side slightly by turning the Gear.
12. Pull out the spindle motor Support Wheel Unit upwards to remove it.
13. Remove the Spring.
14. Slide the holder to make it easier to remove the Screw Unit.

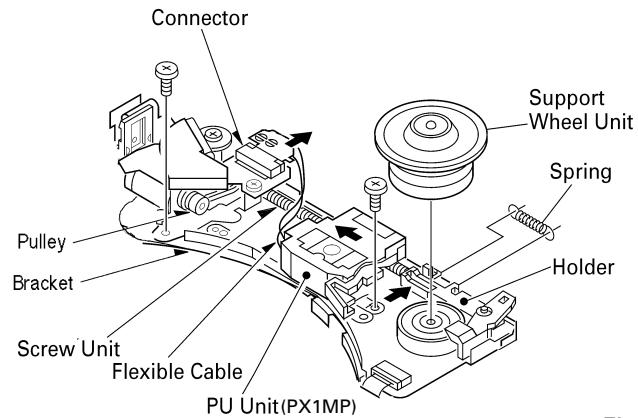


Fig.8

15. While pressing the shaft holder in the direction shown by the black arrow in the right figure, remove the PU Unit(PX1MP) together with the Screw Unit.

**Note:**

To assemble the PU Unit(PX1MP), insert the Spring on the PU rear between the PU Unit(PX1MP) and the Guide first.

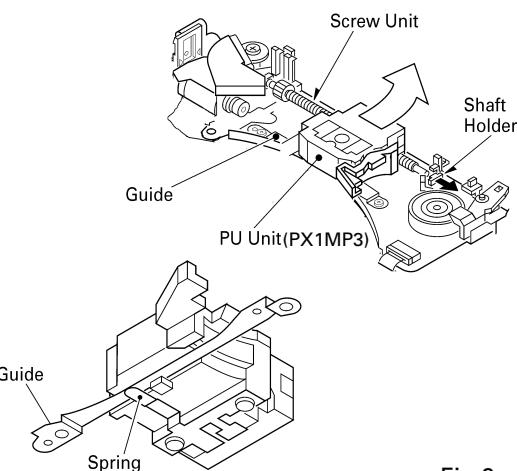
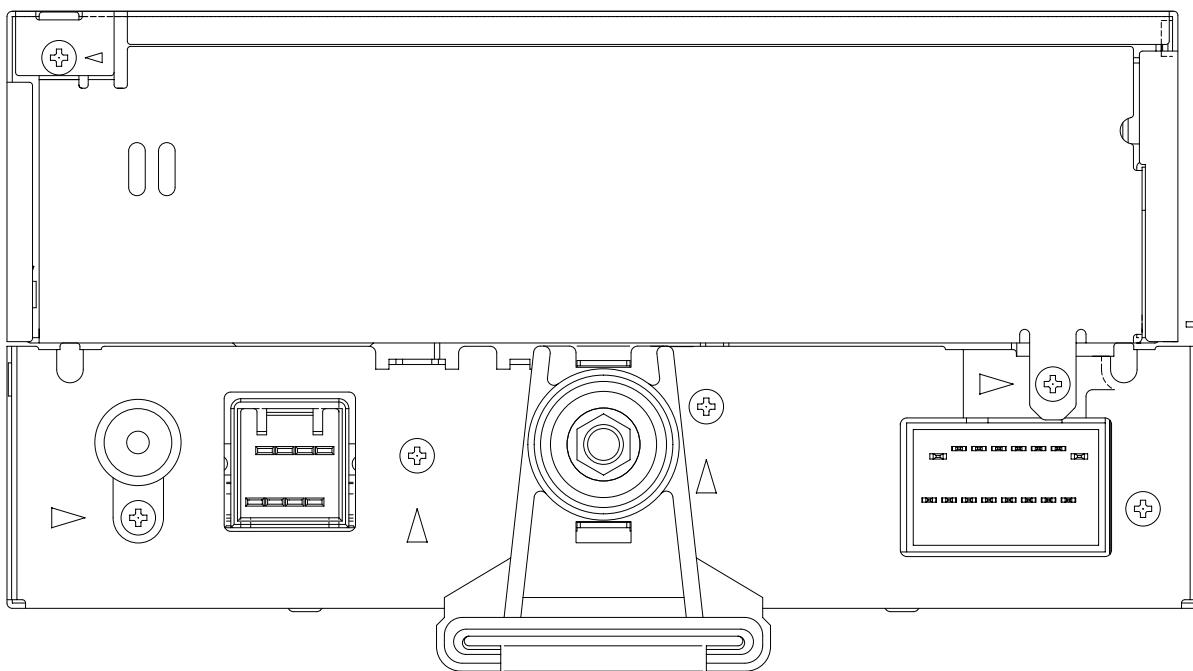


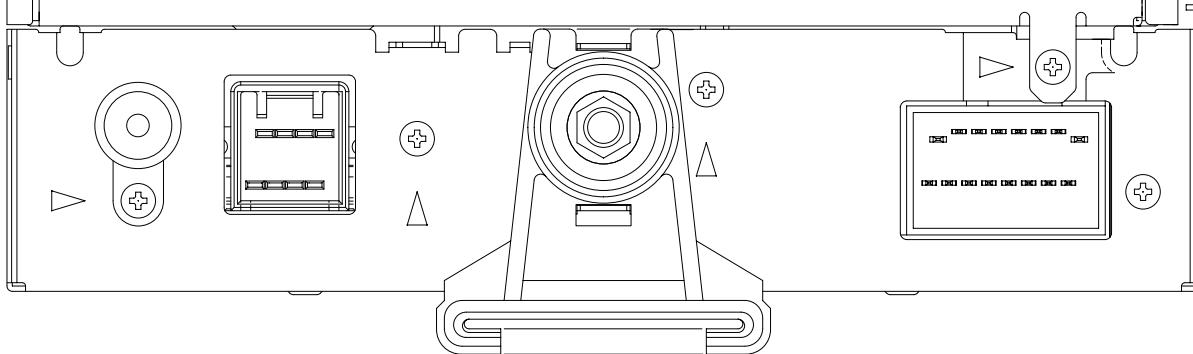
Fig.9

## 7.1.2 CONNECTOR FUNCTION DESCRIPTION

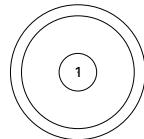
A



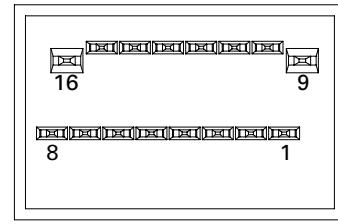
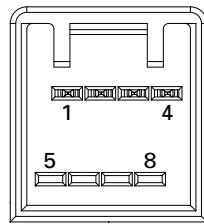
B



C



DEH-MG2037ZF/XU/UC



D

FM/AM ANTENNA	
1	ANTENNA IN
CASE	
RF GND	

SUB WOOFER	
1	SW-
2	SW+
3	SW SHIELD
4	SW E/CLD
5	NC
6	NC
7	NC
8	NC

POWER SUPPLY,SPEAKER	
1	ILL+
2	ILL-
3	START
4	CLOCK
5	RR+
6	RR-
7	FR+
8	FR-
9	B.UP
10	RUN/ACC
11	RADIO GND
12	RL+
13	RL-
14	FL+
15	FL-
16	POWER AMP GND

E

F

## 7.2 PARTS

### 7.2.1 IC

PD5754A	PDH054C	MSM51V18165FP-60TS
PM2010A	UPD63760GJ	PE5335B
S-80843CNUA-B84	BA6849FS	LC75813E
PDH053C	BD7962FM	

#### ● Pin Functions (PD5754A)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	PDO	O	C	Tuner : PLL data output
2	PCK	O	C	Tuner : PLL serial clock output
3	BLPWR	O		LCD back light power output
4	ILMOUT	O		Illumination D/A output
5	LCDDT	O	C	LCD driver : Data output
6	PWMIN	I		Illumination PWM input
7	LCDCLK	O	C	LCD driver : Clock output
8	BYTE			GND
9	CNVSS			GND
10	SCLKIN	I		Sub clock input
11	SCLKOUT	O		Sub clock output
12	RESET	I		Reset input
13	XOUT	O		Crystal oscillating element connection pin
14	VSS			GND
15	XIN	I		Crystal oscillating element connection pin
16	VDD			Power supply terminal
17	NMI	I		Not used(Connect to VDD)
18	RSPSW	O	C	Rear speaker switch output (Not used)
19	ILMINT	I		Illumination interrupt input
20	ROTINT	I		Rotary encoder interrupt input
21	ASENS	I		ACC power sense input
22	RPAIN	I		Reverse parking aid input (Not used)
23	SWCLPIN	I		Sub woofer clip detector input
24	CLPIN	I		Clip detector input
25	SPEED	I		SPEED pulse input (Not used)
26	MUTE	O	C	System mute output
27	BSENS	I		Back up power sense input
28	BSCK	O	C	P-BUS : Serial clock output
29	BSI	I		P-BUS : Serial data input
30	BSO	O	N	P-BUS : Serial data output
31	ATXD	O	C	ACP-BUS : ACP data output (Not used)
32	ARXD	I		ACP-BUS : ACP data input (Not used)
33	FMUTE	O	C	Front mute output (Not used)
34	RMUTE	O	C	Rear mute output (Not used)
35	IFDO	O	C	DSP : Interface Data output
36	IFDI	I		DSP : Interface Data input
37	IFCLK	O	C	DSP : Interface clock output
38	SWPWR	O	C	Sub woofer power output
39	CLKOUT	O	C	Sub clock adjustment output
40	CLKSENS	O	C	Clock defeat output(H : Clock L : None) (Not used)
41-43	NC			Not used
44	CDPWR	O	C	CD power output
45	EPCE	O	C	Diagnosis EEPROM : Chip enable output
46	ROMCS	O	C	ROM correction chip select output
47	ROMCK	O	C	Diagnosis EEPROM : Clock output
48	ROMDATA	I/O	/C	Diagnosis EEPROM : Data input / output
49	FANPWR	O	C	Cooling fan power output
50-54	KDT4-KDT0	I		Key data input 4-0
55	NC			Not used
56	TESTIN	I		Test program mode input
57-61	KST5-KST1	O	N	Key strobe output 5-1
62	VDD			Power supply terminal

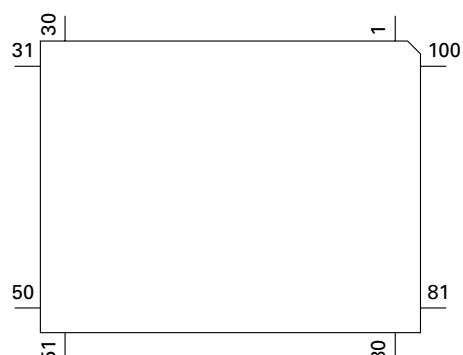
A

Pin No.	Pin Name	I/O	Format	Function and Operation
63	KST0	O	N	Key strobe output 0
64	VSS			GND
65	ROTIN0	I		Rotary encoder pulse input 0
66	ROTIN1	I		Rotary encoder pulse input 1
67	LCDCE	O	C	LCD driver : Chip enable output
68	LCDINH	O	C	LCD driver : Inhibit output
69	SWVDD	O	C	LCD driver : Power supply control output
70	SYSPWR	O	C	System power output
71	MODEL	I		Model select input
72	NC			Not used
73	WAKEUP	I		Wake up key sense input
74	PTAIN	I		PTA interrupt input (Not used)
75	ATPINT	O		ACP-BUS : ACP interrupter output (Not used)
76	NC			Not used
77	EVST	O	C	Electronic volume : Strobe output (Not used)
78	BRXEN	I/O	/C	P-BUS : Communication enable input / output
79	BSRQ	I		P-BUS : Request input
80	BRST	I		P-BUS : Reset input
81	ST	I		Tuner : Stereo input
82	SD	I		Tuner : PLL station detector input
83	PLLCE2	O	C	Tuner : PLL chip enable output 2
84	PLLCE	O	C	Tuner : PLL chip enable output
85	LOCL	O	C	Tuner : Local low output
86	ASYON	O	C	ACP-BUS : ACP power output (Not used)
87	ANTPWR	O	C	Tuner : Antenna power output (Not used)
88	DSPRST	O	C	DSP : IC reset output
89	ERR	I		DSP : Interface error input
90	IFOK	I		DSP : Interface monitor port input
91	ACK	I		DSP : Interface acknowledge input
92	IFCS	O	C	DSP : Interface chip select output
93	TEMP	I		CD : Temperature detection input
94	SWCIN	O		SWC input
95	ILMI	I		Illumination sense input
96	AVSS			GND
97	SL	I		Tuner : SD level input
98	VREF			A/D converter reference voltage terminal
99	AVDD			Power supply terminal
100	PDI	I		Tuner : PLL data input

\* PD5754A

IC's marked by \* are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.



Format	Meaning
C	C MOS
N	N channel open drain

### ● Pin Function (PM2010A)

Pin No.	Pin Name	I/O	Function and Operation
1	XI	I	Crystal oscillator connection or clock input
2	XO	O	Crystal oscillator connection
3	VDX		Crystal oscillator power supply
4	GNDA1		DAC1GND
5	AOUT1	O	DAC1 volume output
6	DACO1	O	DAC1 output
7	VLI1	I	DAC1 volume input
8	VDD12		DAC1, DAC2 power supply
9	VLI2	I	DAC2 volume input
10	DACO2	O	DAC2 output
11	AOUT2	O	DAC2 volume output
12, 13	GNDA2, 3		DAC2, 3GND
14	AOUT3	O	DAC3 volume output
15	DACO3	O	DAC3 output
16	VLI3	I	DAC3 volume input
17	VREF		DAC operation amp reference potential connection pin
18	VDD34		DAC3, DAC4 power supply
19	VLI4	I	DAC4 volume input
20	DACO4	O	DAC4 output
21	AOUT4	O	DAC4 volume output
22, 23	GNDA4, 5		DAC4, 5GND
24	AOUT5	O	DAC5 volume output
25	DACO5	O	DAC5 output
26	VLI5	I	DAC5 volume input
27	VDD56		DAC5, DAC6 power supply
28	VLI6	I	DAC6 volume input
29	DACO6	O	DAC6 output
30	AOUT6	O	DAC6 volume output
31	GNDA6		DAC6GND
32	GND		Digital section GND
33-36	TEST0-3	I	Test setting 0-3
37	VDD		Digital section VDD
38-41	TP0-3	O	Test port 0-3
42	CKI0	I	DAC clock input 0
43	TP4	O	Test port 4
44	CKI1	I	DAC clock input 1
45	TP5	O	Test port 5
46	CKO0	O	General-purpose clock output 0
47	TP6	O	Test port 6
48	CKO1	O	General-purpose clock output 1
49	VDD		Digital section VDD
50	CKO2	O	Clock output 2
51, 52	ELRO0, 1	I	LRCK input for DOUT0, 1
53, 54	EBCO0, 1	I	BCK input for DOUT0, 1
55, 56	DOUT0, 1	O	Digital serial output 0, 1
57	GND		Digital section GND
58-60	DIN0-2	I	Digital serial input 0-2
61, 62	EBCI0, 1	I	BCK input for DIN0, 1
63, 64	ELRI0, 1	I	LRCK input for DIN0, 1
65	GND		Digital section GND
66	I2CS	I	Microcomputer I/F I2C select
67	CS	I	Microcomputer I/F chip select
68	IFCK	I	Microcomputer I/F communication clock input
69	IFDI	I	Microcomputer I/F data input
70	IFDO	O	Microcomputer I/F data output
71	ACK	O	Microcomputer I/F acknowledge output
72	IFOK	O	Microcomputer I/F condition monitor output
73	ERR	O	Overrun monitor output
74	BT	I	Boot setting

A

B

C

D

E

F

A

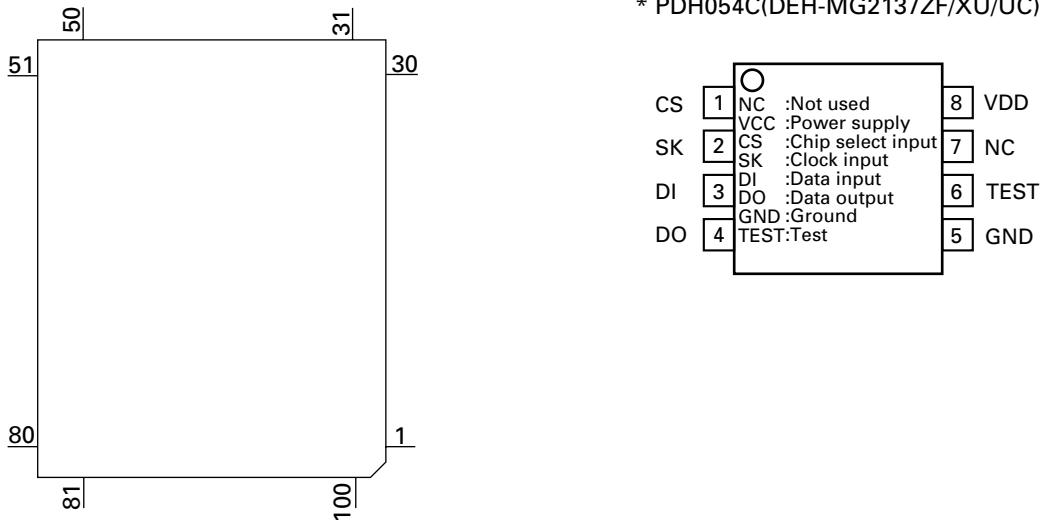
Pin No.	Pin Name	I/O	Function and Operation
75	RST	I	Reset
76	VDD		Digital section VDD
77	VDAM		ADC microphone input power supply
78	VARM		ADC microphone input operation amp reference potential
79	MIN	I	ADC microphone input
80	GNDM		ADC microphone input GND
81-86	LIN-1-6	I	ADC Lch input 1-6
87-92	RIN-1-6	I	ADC Rch input 1-6
93	GNDAL		ADC Lch input GND
94	OUTL	O	ADC Lch selector output
95	VRAL		ADC Lch operation amp reference potential
96	VDA		ADC input power supply
97	VRAR		ADC Rch operation amp reference potential
98	OUTR	O	ADC Rch selector output
99	GNDAR		ADC Rch input GND
100	GNDX		Crystal oscillator section GND

\* PM2010A

\* PDH053C(DEH-MG2037ZF/XU/UC)

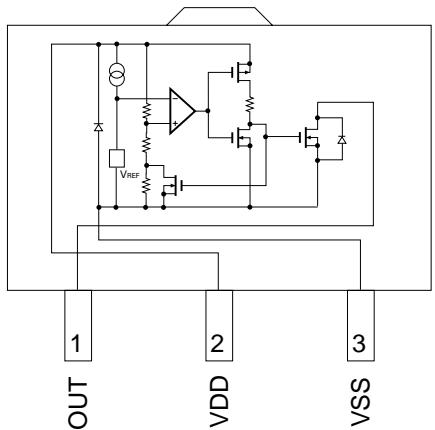
\* PDH054C(DEH-MG2137ZF/XU/UC)

C



D

\* S-80843CNUA-B84



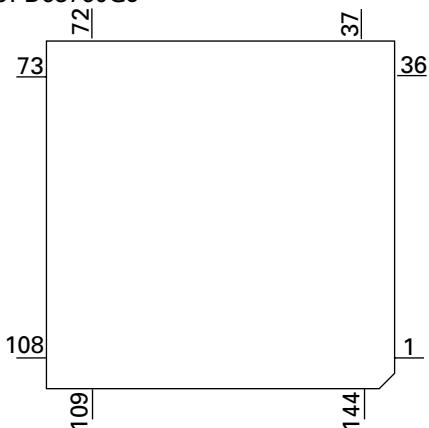
5

## ● Pin Functions (UPD63760GJ)

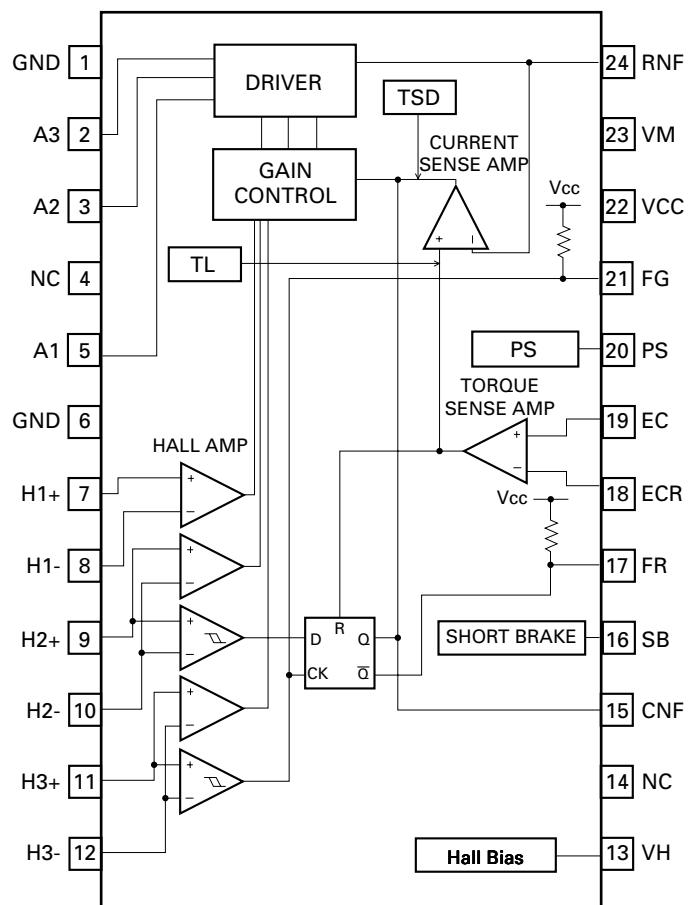
Pin No.	Pin Name	I/O	Function and Operation
1	R.GND		GND for DRAM I/F
2	RST	I	Input of reset
3-7	AB12-8	I	Address bus 12-8 from the microcomputer
8-15	AD7-0	I/O	Address/data bus 7-0 to the microcomputer
16	CS	I	Chip selection
17	ASTB	I	Address strobe
18	READ	I	Control signals (read)
19	WRITE	I	Control signals (write)
20	WAIT	O	Control signals (wait)
21	INTQ		Interruption signals to the external microcomputer
22	IFMODE	I	Switching between the data buses (16bit/8bit)
23	D.VDD		Power supply for digital circuits
24	XTALEN1	I	Permission to oscillate 16.9344MHz
25	XTALEN2	I	Permission to oscillate 24.576MHz
26	DA.VDD		Power supply for DAC
27	ROUT	O	Output of audio for the right channel
28	DA.GND		GND for DAC
29	R+	O	Output of the right channel audio PWM
30	R-	O	Output of the right channel audio PWM
31	REGC		Connected to the capacitor for band gap
32	L-	O	Output of the left channel audio PWM
33	L+	O	Output of the left channel audio PWM
34	DA.GND		GND for DAC
35	LOUT	O	Output of audio for the left channel
36	DA.VDD		Power supply for DAC
37	X.VDD		Power supply for the crystal oscillator
38	XTAL1		Connected to the crystal oscillator (16.9344MHz)
39	XTAL1		Connected to the crystal oscillator (16.9344MHz)
40, 41	X.GND		Ground for the crystal oscillator
42	XTAL2		Connected to the crystal oscillator (24.576MHz)
43	XTAL2		Connected to the crystal oscillator (24.576MHz)
44	X.VDD		Power supply for the crystal oscillator
45	D.GND		GND for digital circuits
46	DIN	I	Input of audio data
47	DOUT	O	Output of audio data
48	SCKIN	I	Clock input for audio data
49	SCKO	O	Clock output for audio data
50	LRCKIN	I	Input of LRCK for audio data
51	LRCK	O	Output LRCK for audio data
52	TESTX	O	Output for tests
53	RFOK	O	Output of RFOK
54	C16M	O	Output of 16.9344MHz
55	TESTEN	I	Connected to GND
56	TEST4	I	Connected to GND
57	D.VDD		Power supply for digital circuits
58	RFCK/HOLD	O	Output of RFCK/HOLD signal
59	WFCK/MIRR	O	Output of WFCK/MIRR signal
60	PLCK	O	Output of PLCK
61	LOCK	O	Output of LOCK
62	C1D1	O	Information on error correction
63	C1D2	O	Information on error correction
64	C2D1(RMUTE)	O	Information on error correction (mute for Rch)
65	C2D2(LMUTE)	O	Information on error correction (mute for Lch)
66	C2D3	O	Information on error correction
67	D.GND		Ground for digital circuits
68	RAS	O	Output of DRAM RAS
69	CAS0	O	Output of DRAM Lower CAS
70	CAS1	O	Output of DRAM Upper CAS
71	WE	O	Output of DRAM WE
72	OE	O	Output of DRAM OE

	Pin No.	Pin Name	I/O	Function and Operation
A	73-88	RDB0-15	I/O	Input/output of DRAM Data0-15
	89	D.GND		Ground for digital circuits
	90-99	RA0-9	O	Output of DRAM Address0-9
	100	D.VDD		Power supply for digital circuits
	101-104	TEST0-3	I	Connected to GND
	105	FD	O	Output of focus drive PWM
	106	TD	O	Output of tracking drive PWM
	107	SD	O	Output of thread drive PWM
	108	MD	O	Output of spindle drive PWM
B	109	A.VDD		Power supply for the analog system
	110	ATEST	O	Analog tests
	111	EFM	O	Output of EFM signals
	112	ASY	I	Input of asymmetry
	113	C3T		Connection to the capacitor for detecting 3T
	114	A.GND		Ground for the analog system
	115	RF1	I	Input of RF
	116	AGCO	O	Output of RF
	117	AGCI	I	Input of AGC
	118	RFO	O	Output of RF(AGC)
C	119, 120	EQ2, 1		Equalizer 2, 1
	121	RF2-	I	Reversal input of RF2
	122	RF-	I	Reversal input of RF
	123	A.GND		Ground for the analog system
	124	A	I	Input of A
	125	C	I	Input of C
	126	B	I	Input of B
	127	D	I	Input of D
	128	F	I	Input of F
	129	E	I	Input of E
	130	A.VDD		Power supply for the analog system
	131	REFOUT	O	Output of reference voltage
	132	REFC		Connected to the capacitor for output of REFOUT
D	133	FE-	I	Reversal input of FE
	134	FEO	O	Output of FE
	135	TE-	I	Reversal input of TE
	136	TEO	O	Output of TE
	137	TE2	O	TE2
	138	TEC	I	TEC
	139	A.GND		Ground for the analog system
	140	LDREGO	O	Output of REG voltage for APC
	141	PD	I	Input of PD
	142	LD	O	Output of LD
	143	PN	I	Assignment of pickup polarity
	144	A.VDD		Power supply for the analog system

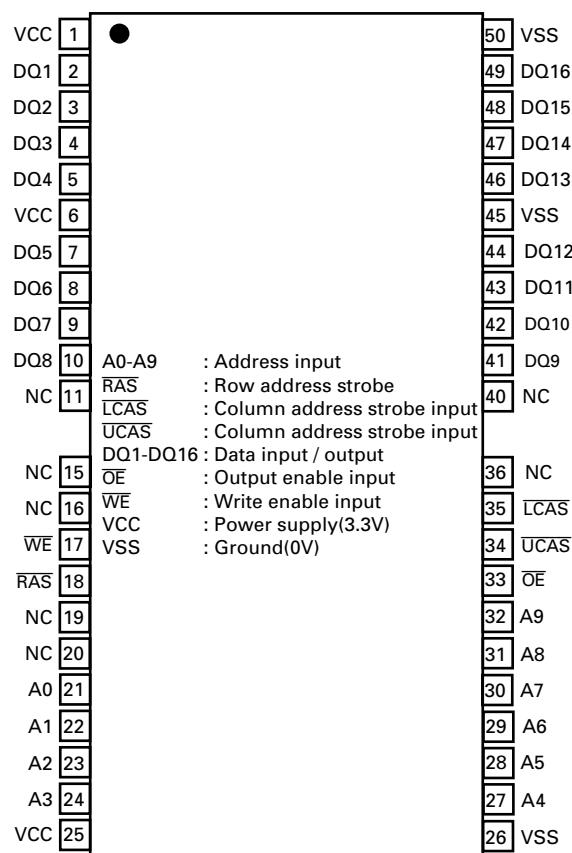
E \* UPD63760GJ



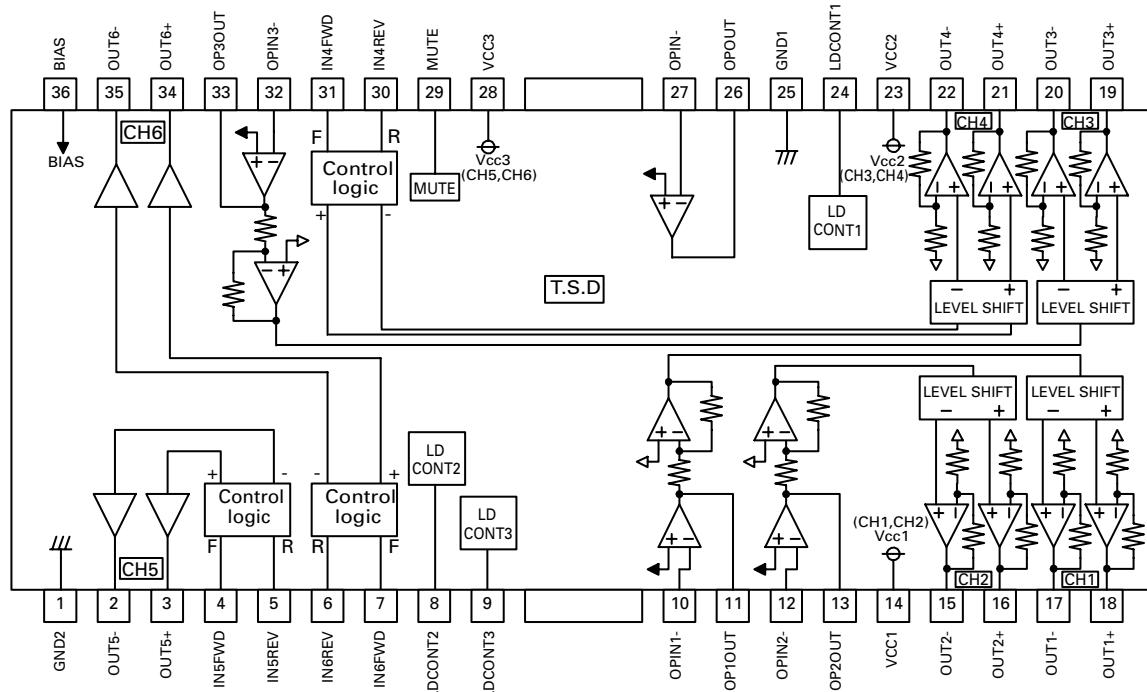
BA6849FS



\* MSM51V18165FP-60TS



BD7962FM

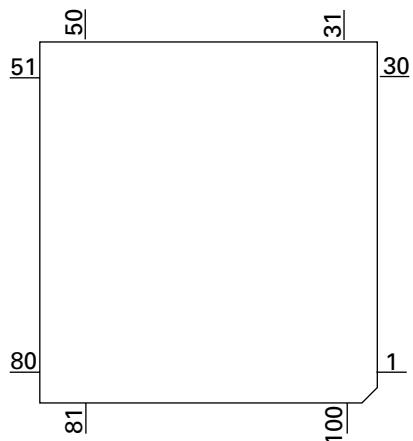


## ● Pin Functions (PE5335B)

Pin No.	Pin Name	I/O	Format	Function and Operation
1	FTXD	O	C	For flash rewriting (transmitted signal)
2	BUFEMP	O	C	Not used
3	BSI	I		P-Bus serial data input
4	BSO	O	C	P-Bus serial data output
5	BSCK	I/O	/C	P-Bus serial clock input/output
6	CAMEOK	I		CAM operation sense 1
7	CAMLOAD	I		CAM operation sense 2
8	CAMCLMP	I		CAM operation sense 3
9	EVDD			E power supply Positive power supply
10	EVSS			E power supply GND
11	LO2	O	C	LOAD motor control output 2 (FWD)
12	LO1	O	C	LOAD motor control output 1 (REV)
13	ELV2	O	C	ELV motor control output 2 (FWD)
14	ELV1	O	C	ELV motor control output 1 (REV)
15	FG	I		SPDL FG pulse input
16	CLAMP	I		DISC clamp detect input
17	EMPH	O	C	Not used
18	DSPMUTE	O	C	Not used
19	DRAMSEL	I		DRAM 4M(L), 16M(H) select input
20	ADENA	O	C	A/D reference voltage supply control output
21	IC/VPP			IC : VSS direct connection/VPP : Pull-down
22	BRXEN	I/O	/C	P-Bus reception is possible
23	BSRQ	I/O	/C	P-Bus service request demand
24	XTALEN1	O	C	CD LSI 16.9344MHz oscillation permission output
25	XTALEN2	O	C	CD LSI 24.576MHz oscillation permission output
26	XRST	O	C	CD LSI reset control output
27	VDCONT	O	C	VD power supply control output
28	CD3VON	O	C	CD +3.3V power supply control output
29	CONT	O	C	Servo driver power supply control output
30	XWAIT	I		CD LSI wait control signal input
31	CG1	O	C	CAM motor control output 1 (REV)
32	CG2	O	C	CAM motor control output 2 (FWD)
33	CDMUTE	O	C	CD mute control output
34	RESET	I		System reset input
35	XT1	I		Connected to the oscillator for subclock (connected to VSS via the resistor)
36	XT2			Connected to the oscillator for subclock (Open)
37	REGC			Connected to the capacity stabilizing output of the regulator (an electrolytic capacitor of about 1μF)
38	X2			Oscillator connection for mainclock
39	X1	I		Oscillator connection for mainclock
40	VSS			GND
41	VDD			Positive power supply (5V)
42	CLKOUT	O	C	Internal system clock output (Open)
43	XWRITE	O		CD LSI write control signal output
44	UBEN	O		Not used (Open)
45	WR/W	O		Not used
46	XREAD	O		CD LSI read control signal output
47	XASTB	O		CD LSI address strobe output
48	LOCK	I		Spindle lock input
49	NC	O	C	Not used
50-57	AD0-7	I/O	/C	Address/Data bus 0-7
58	BVDD			B power supply Positive power supply (3.3V)
59	BVSS			B power supply GND
60-67	AD8-15	I/O	/C	Address/Data bus 8-15
68	XCS	O	C	Not used
69	WCS	O	C	Not used
70	NC			Not used
71	NC			Not used
72	XCS	O	C	CD LSI chip select output

Pin No.	Pin Name	I/O	Format	Function and Operation
73	NC	O	C	Not used
74	AVDD			A power supply Positive power supply (5V)
75	AVSS			A power supply GND
76	AVREF			The reference voltage input for A/D converter
77	VDSENS			VD power supply short sense input
78	EREF			ELV sense reference voltage
79	TEMP			Temperature information sense input
80	HOME	I		Home SW sense input
81	LOAVOL2	I		Connected to AVDD or AVSS via the resistor
82	FOK	I		RFOK input chatter count input
83	A/D			Connected to AVDD or AVSS via the resistor
84	LOADPHT			LOAD operation sense input
85	ELVSNS			ELV position select input
86	NC	I		Connected to AVDD or AVSS via the resistor
87	NC	I		Connected to AVDD or AVSS via the resistor
88	TESTIN	I		Chip check test program starting input
89	NC			Connected to EVDD or EVSS via the resistor
90	XINT			CD LSI interruption signal input
91	NC			Connected to EVDD or EVSS via the resistor
92	BRST	I		P-Bus reset input
93	LOADSW1	I		Loading detect switch 1
94	LOADSW2			Loading detect switch 2
95	ELV_VOL	O	C	ELV drive voltage select output
96	LOD_VOL	O	C	LOD drive voltage select output
97	SIO	I/O	/C	E2PROM data input/output
98	SOO	O	C	E2PROM chip selection output
99	SCKO	O	C	E2PROM clock output
100	FRXD	I		For flash rewriting (received signal)

\* PE5335B

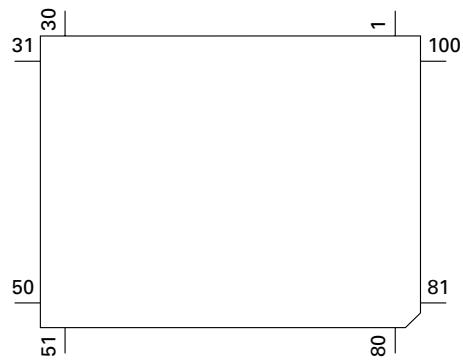


Format	Meaning
C	CMOS

### A ● Pin Functions (LC75813E)

Pin No.	Pin Name	I/O	Function and Operation
1	CL	I	Clock input
2	DI	I	Data input
3-89	S1-S87	O	Segment output
90-92	COM3-COM1	O	Common output
93	VDD		Logic section power supply terminal
94	VLCD		LCD driver section power supply terminal
95	VLCD1		2/3 VLCD terminal
96	VLCD2		1/3 VLCD terminal
97	VSS		GND
98	OSC		Oscillating element connection terminal
99	INH	I	LCD driver inhibit input
100	CE	I	LCD driver chip enable input

\* LC75813E

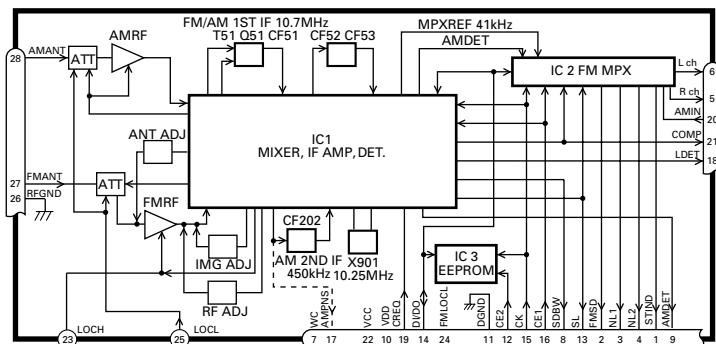


D

E

F

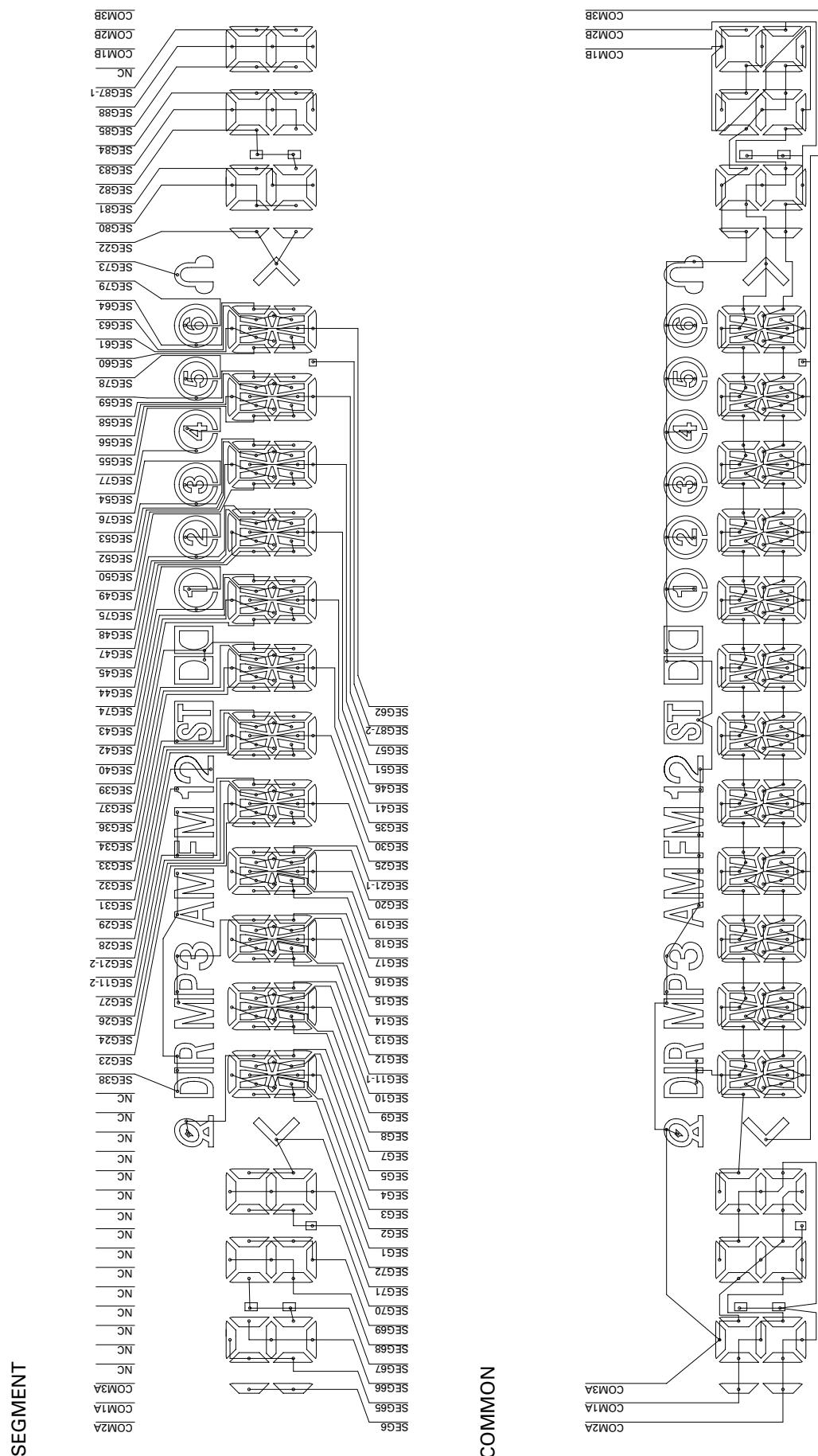
## ● FM/AM Tuner Unit



No.	Symbol	I/O	Explain
1	STIND	O	stereo indicator "Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ.
2	FMSD	O	FM station detector "High" when signals are received. To be pulled up to the "VDD" at 47kΩ Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications)
3	NL1	O	noise level-1 "High" when noise is received. Output for the RDS. GND at 47kΩ//1,800pF.
4	NL2	O	noise level-2 "High" when noise is received. Output for the RDS. GND at 36kΩ//330pF.
5	Rch	O	R channel output FM stereo "R-ch" signal output or AM audio output. Add the specified de-emphasis constant.
6	Lch	O	L channel output FM stereo "L-ch" signal output or AM audio output. Add the specified de-emphasis constant.
7	WC		write control EEPROM write control. Writing permissible at "Low". Normally open.
8	SDBW	O	SD bandwidth SD bandwidth signal output. For detection of detuning data for the RDS.
9	AMDET	O	AM detector output AM detector output. $r_{out} < 100\Omega$
10	VDD		power supply Power supply pin for the digital section. DC 5V +/- 0.25V. Be careful about overlapping noise in the logic section.
11	DGND		digital ground Grounding for the digital section.
12	CE2	I	chip enable-2 EEPROM chip enable. Active a "Low" To be pulled up to the "VDD" at 47kΩ
13	SL	I/O	signal level Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10kΩ + 39kΩ//4,700pF)
14	DI/DO	I/O	data input/ data output Data input/Data output To be pulled up to the "VDD" at 47kΩ
15	CK	I	clock Clock input To be pulled up to the "VDD" at 47kΩ
16	CE1	I	chip enable-1 AF-RF chip enable. Active at "High" To be grounded at 47kΩ
17	AMPNS	O	AM PNS IF signal IF signal output for AM PNS circuit.
18	LDET	O	lock detector Active at "Low". To be pulled up to the "VDD" at 47kΩ
19	CREQ	I	current request Active at "Low". To be grounded at 47kΩ
20	AMINI		AM audio input The frequency response and the level are set by connecting an external CR network with terminal AMIN as terminal AMDET. $r_{in} = 50\Omega$
21	COMP	O	composite signal FM composite signal output. $r_{out} < 100\Omega$
22	VCC		power supply Analog section power supply pin. DC 8.4V +/- 0.3V
23	LOCH	I	local high FM local high pin. When seeking local high, apply 5V together with "LOCL".
24	FMLOCL	I	local low FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models.
25	LOCL	I	local low FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor. Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.
26	RFGND		RF ground Grounding for the antenna section.
27	FMANT	I	FM antenna input FM antenna input. $75\Omega$ . Surge absorber (DSP-201M-S00B) is necessary.
28	AMANT	I	AM antenna input AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of $4.7\mu\text{H}$ . To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about $100\text{mH}$ ) + R (a resistor of $470\Omega$ to $2.2\text{k}\Omega$ ) between the GND.

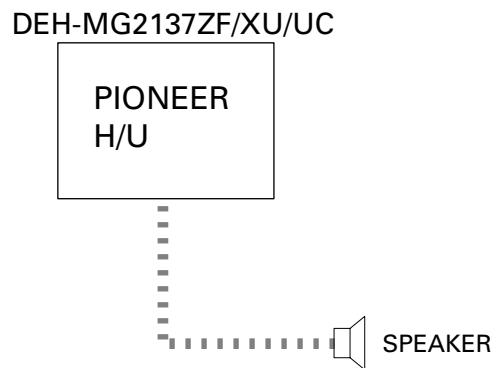
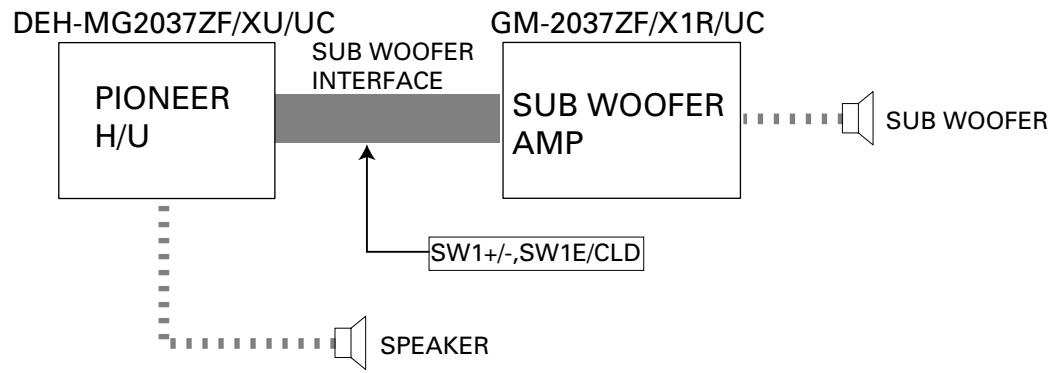
## 7.2.2 DISPLAY

## ● LCD(CAW1822)



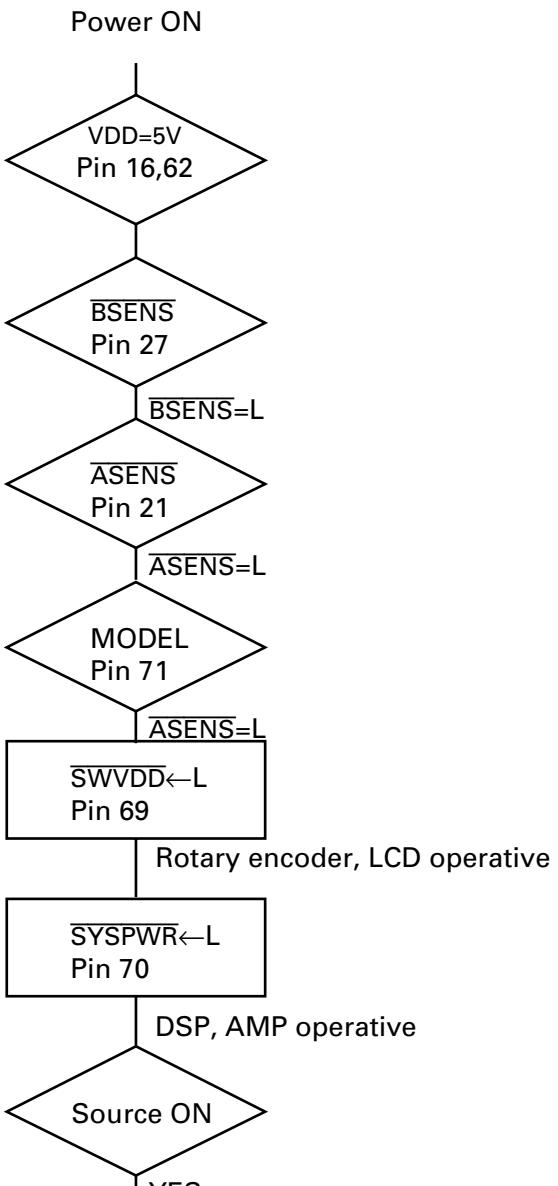
## 7.3 EXPLANATION

### 7.3.1 SYSTEM BLOCK DIAGRAM



### 7.3.2 OPERATIONAL FLOW CHART

A



B

C

D

E

F

Completes power-on operation.  
(After that, proceed to each source operation)

## 7.4 NOTES ON SERVICING

### 7.4.1 CLEANING

Before shipping out the product, be sure to clean the following portions by using the prescribed cleaning tools:

Portions to be cleaned	Cleaning tools
CD pickup lenses	Cleaning liquid : GEM1004
	Cleaning paper : GED-008

Portions to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

### 7.4.2 FACTORY SETTINGS

#### ● When the Repair is Complete

When the Repair is Complete, make the CD mechanism ready for transportation.

#### Turning on "Shipment mode" (to prevent damage during shipment)

• Remove all discs loaded in this product, before disconnecting the power supply connector (vehicle harness).



• Set this product to the "Shipment mode" and then disconnect the power supply connector before shipping.



#### • Setting the "Shipment mode"

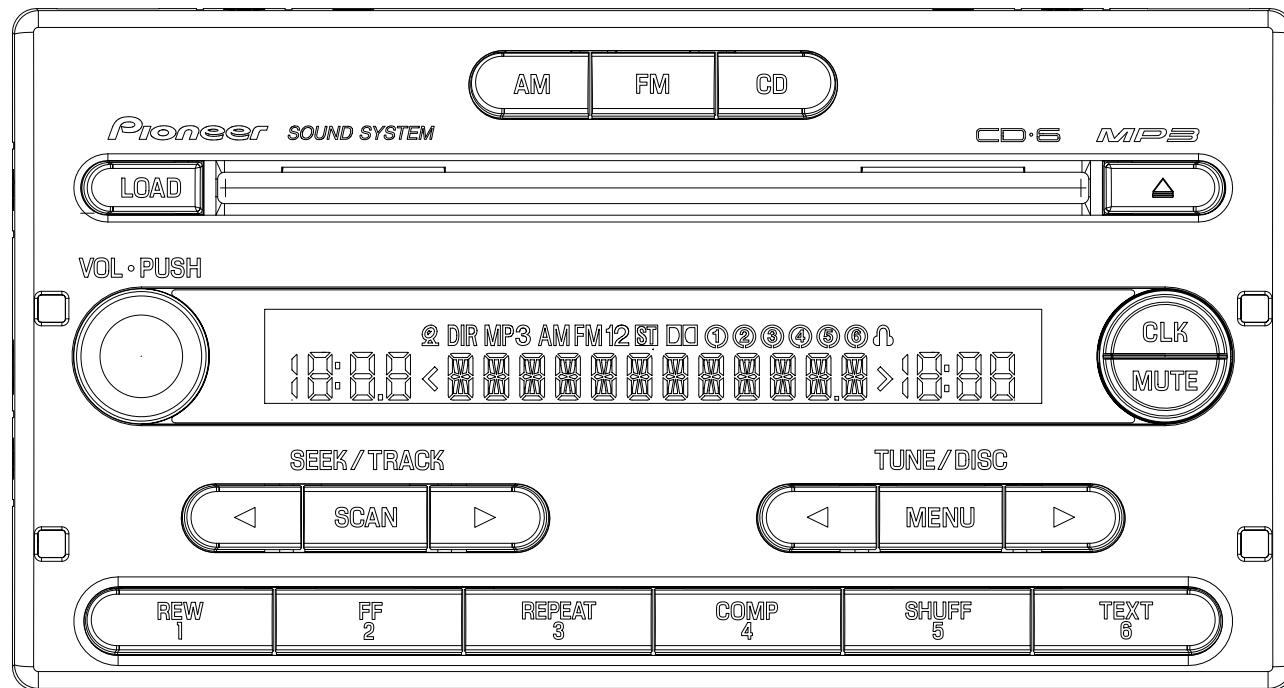
• Switch ACC OFF, and then, while simultaneously pressing the preset "2" and preset "5" buttons, switch ACC ON.

#### • Confirming "Shipment mode" setting

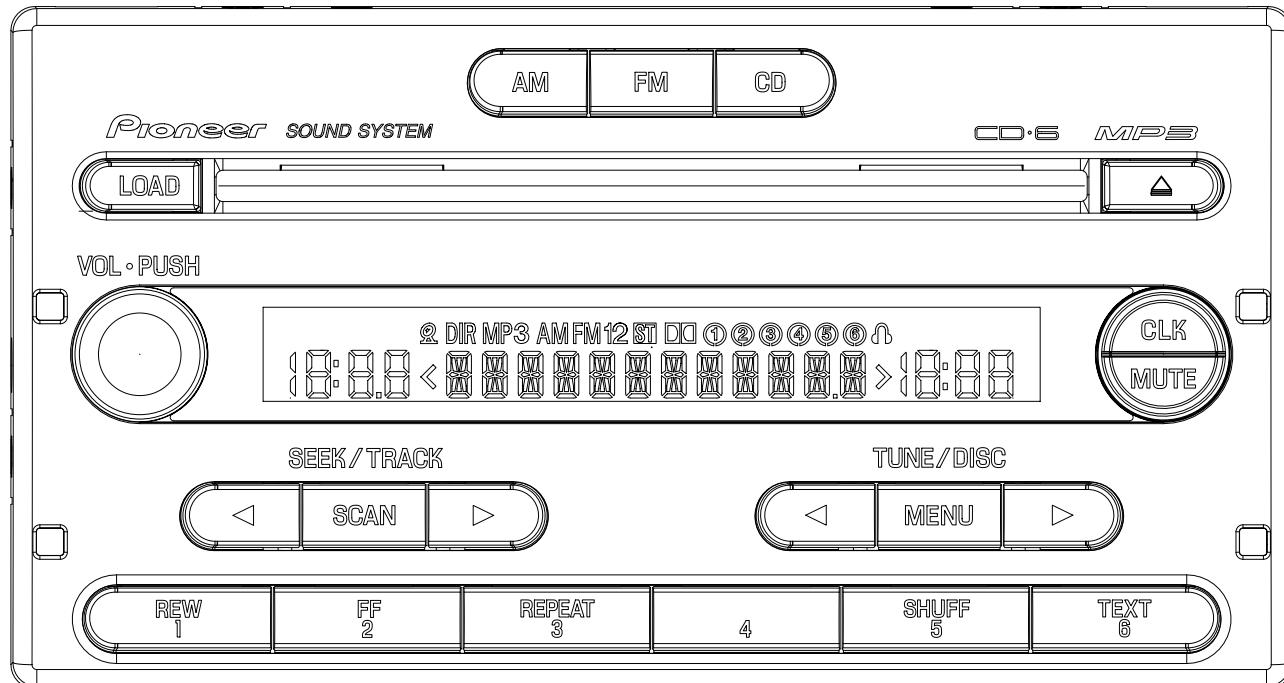
• When Shipment mode setting is started, "SHIPMENT" on display blinks and "SHIPMENT ON" for completion of the setting.

## 8. OPERATIONS

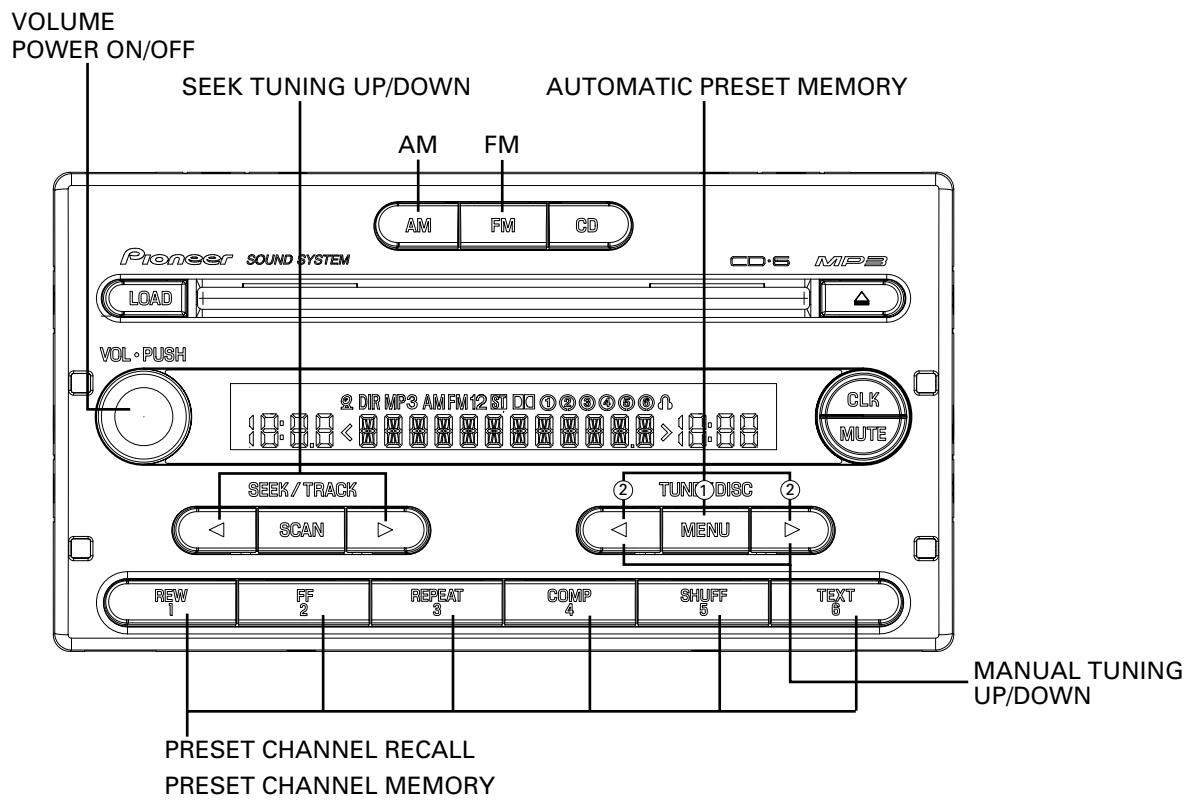
### ● DEH-MG2037ZF/XU/UC



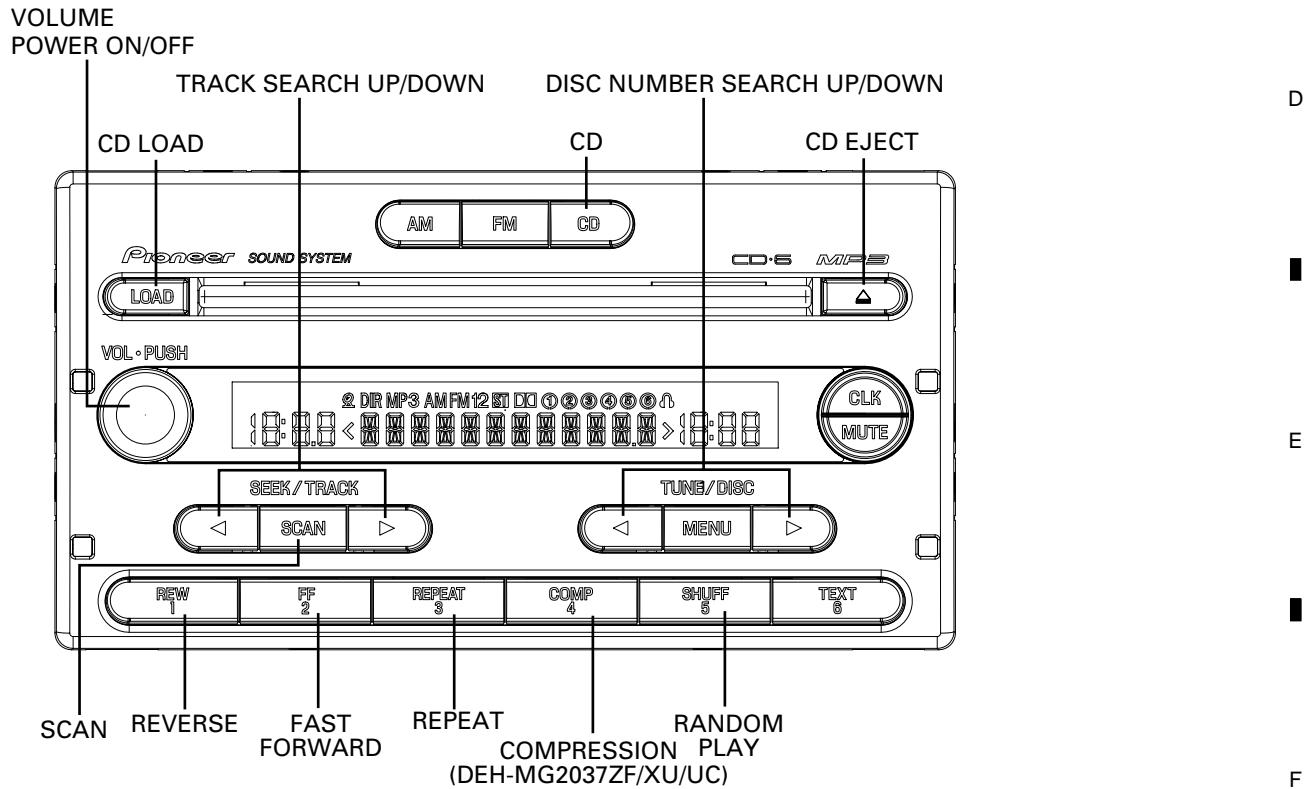
### ● DEH-MG2137ZF/XU/UC



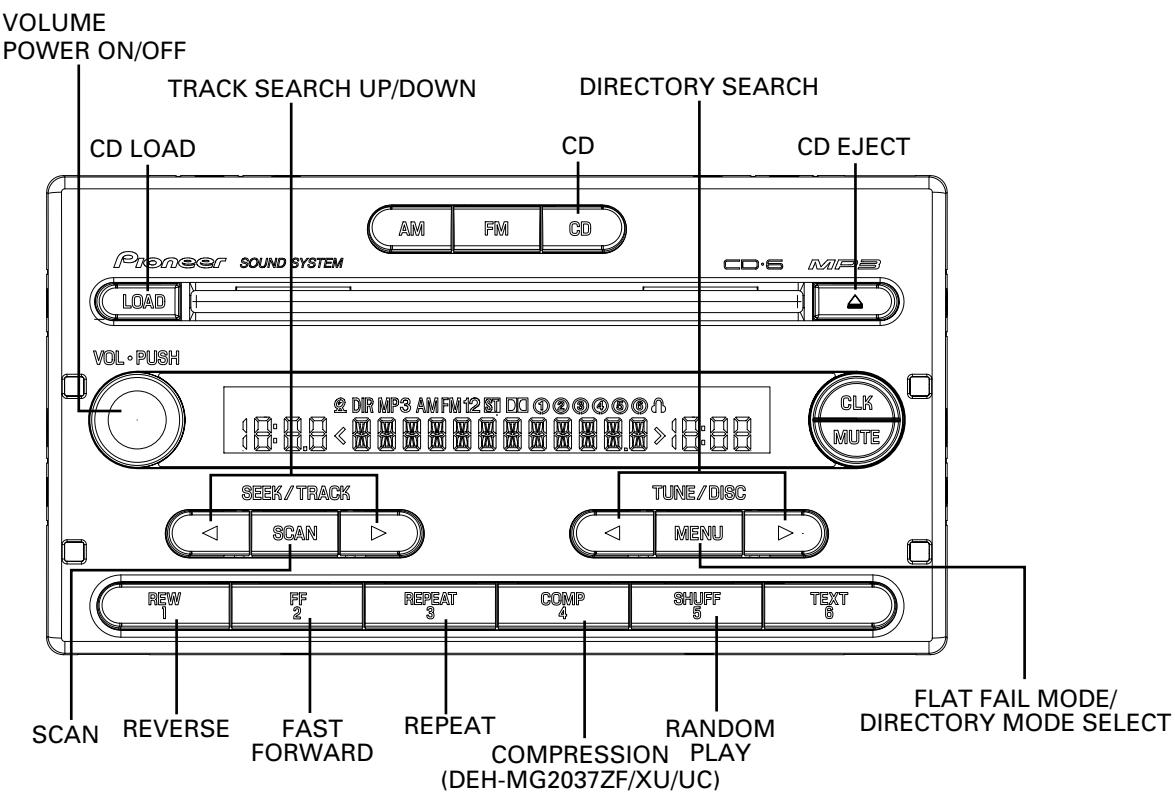
## ● RADIO



## ● CD



## A ● MP3



## B ● AUDIO

